Quality Review Report

2018-2019

School of Science & Technology

Elementary 22K152

725 East 23 Street
Brooklyn
NY 11210

Principal: Gina Smalley

Dates of Review:
March 27, 2019 - March 28, 2019

Lead Reviewer: Glenda Esperance
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

School of Science & Technology serves students in grade PK through grade 5. 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

<table>
<thead>
<tr>
<th>Instructional Core</th>
<th>Area</th>
<th>Rating</th>
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<tbody>
<tr>
<td><strong>To what extent does the school...</strong></td>
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<tr>
<td>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</td>
<td>Additional Finding</td>
<td>Proficient</td>
</tr>
<tr>
<td>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</td>
<td>Area of Focus</td>
<td>Developing</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>Developing</td>
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## School Quality Ratings continued

### School Culture

<table>
<thead>
<tr>
<th>Area</th>
<th>Rating</th>
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<tbody>
<tr>
<td>To what extent does the school...</td>
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<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>
</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>
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### Systems for Improvement

<table>
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<tr>
<th>Area</th>
<th>Rating</th>
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<tr>
<td>To what extent does the school...</td>
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<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>
</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>
</tr>
<tr>
<td>4.1 Observe teachers using the Danielson Framework for Teaching along with the analysis of learning outcomes to elevate school-wide instructional practices and implement strategies that promote professional growth and reflection</td>
<td>Additional Finding</td>
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<tr>
<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>
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<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 the CCLS</td>
<td>Additional Finding</td>
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Area of Celebration

<table>
<thead>
<tr>
<th>Quality Indicator:</th>
<th>1.4 Positive Learning Environment</th>
<th>Rating:</th>
<th>Proficient</th>
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</table>

Findings

There are structures in place to ensure that the school environment is safe and inclusive and student voice is valued. Student participation in morning meetings helps ensure that each child is well known by at least one adult within the school community.

Impact

School leaders and faculty have created a learning environment that celebrates the diversity of their students, promotes a tone that fosters respect for all, and rewards positive behavior.

Supporting Evidence

- To promote inclusion across the school community, school leaders have implemented initiatives that embrace the diversity in the building and support respect for all. Every day the morning announcements are recited by students in Spanish, Haitian Creole, and English to acknowledge the predominant languages spoken among the students. In November, the school hosted a multicultural event celebrating the cultural traditions of the Caribbean, Mexico, Africa, Central, and South America. Each grade was assigned a specific region and students conducted research and created displays highlighting important facts about the area. These pieces were then showcased around the school building. In February, students participate in Respect for All activities that promote acceptance. For example, this year the faculty hosted a “No One Eats Alone” event during which students created personalized lunch mats and ate lunch with new friends. Student voice is welcomed in selecting activities that promote community. For example, school leaders met with the student government to select the schoolwide monthly theme days. The group also worked together to create a suggestion box for obtaining input about schoolwide issues from other students across the school. These initiatives contribute to the welcoming tone of the culture within the school building.

- Across grade levels, the school faculty ensures that students are well-known by at least one adult. Students engage in morning meetings on a daily basis. During these sessions, teachers and students greet each other, participate in a community-building activity, and share important information about the day. During one student meeting, a participant shared, “I like morning meeting. I know that I am not invisible, and it makes me feel happy because I am being recognized.” Additionally, grade four and five students participate in cycles of meditation led by the school’s student intervention specialist on a weekly basis. During a cycle, students are provided with actionable steps to facilitate quiet mindfulness moments. Once students are focused and their emotional state regulated, the activity is extended to include conversations that support positive non-academic behaviors. For example, during one session, students focused on the theme of generosity and created lists of things you can give to or do for others that don’t cost money. Students were also challenged to chart generous acts they observed.

- The school recently implemented a Positive Behavior Intervention and Support (PBIS) program to celebrate positive behaviors. Students are given tickets/recommendations for making good choices, and these tickets are later redeemed for prizes and treats. The PBIS program also celebrates the achievements of individual students who exemplify the qualities of their pre-determined monthly themes. For example, in October the theme of respect was discussed with students across all classrooms, and teachers were provided with a list of examples of what respect looked and sounded like. Students who demonstrated continuous examples of this trait in their actions were selected as students of the month. School leaders have also created a monthly incentive program that rewards students for having 100 percent attendance. At the end of each month, there is a special Atten-DANCE for students with perfect attendance and no latenesses.
Findings

Across classrooms, teaching practices are becoming aligned to the curricula, reflecting the beliefs that students learn best when collaborating in small groups and when given opportunities for turn and talk discussions. Teaching strategies inconsistently provide multiple entry points into the curricula, leading to uneven demonstration of high-order thinking skills.

Impact

The majority of teachers are engaged in structured, inquiry-based professional collaborations, and teaching practices are informed by the instructional shifts. However, there are limited opportunities for all learners to engage in appropriately challenging tasks, such as discussion, or to demonstrate higher-order thinking skills in work products.

Supporting Evidence

- In most observed classes, there was evidence of practices that reflected the articulated belief that students learn best through collaboration. For instance, students were often seated in groups or, when on the carpet receiving direct instruction, it was clear that they would return to group seating arrangements. However, evidence of the additional belief that students learn best when using the turn and talk strategy for discussion was inconsistent. In a grade five literacy class, students were seated on the floor in front of the SmartBoard discussing the central ideas of a nonfiction text. Students were asked to turn and talk and share their thoughts of the passage while citing evidence from the text. Although the teacher directed student to turn and talk to their partners, they were given fewer than 30 seconds to speak with each other. Consequently, students were unable to share their complete thought or fully express what their partners shared. While the teacher incorporated additional turn and talk opportunities into the lesson, the implementation of the strategy was limited because the time allotted was insufficient.

- In one fourth-grade math class, students were studying order of operations. Students were divided into three categories, in-need of supports, on grade level, and enrichment, with all working towards the same learning objectives. Scaffolding included differentiated numbers in the problems. Students also completed a math self-assessment checklist that had them rate how well they used mathematic vocabulary, an instructional shift, and how well they self-assessed for errors. While these teaching strategies provided multiple entry points, ensuring that all learners were appropriately engaged, these practices were not evident across a majority of classrooms. For example, in a grade three literacy classroom, students were working at centers. One station for English Language Learners (ELLs) directed them to chart a list of word blends found in their text as a strategy to support language development. Within five minutes, students completed the activity and had chart paper filled with post-its. Several students from the group shared that the task was easy. However, the task was not appropriately challenging and did not allow these students to demonstrate higher order thinking.

- In a grade four STEM class, student groups had to create three electronic snap circuits and draw a model of each path. They then were required to describe the way the wires, the battery, and the bulb connected to form the live circuit. Students were given a guidebook and had the choice of selecting their own circuit designs. However, opportunities for such challenging tasks and collaborative learning were not practices witnessed across classrooms. For example, in a grade three math class, students worked independently on three math problems and, based on their performance, selected an activity from the enrich/reteach folder. Students working on the enrichment question finished early and had to wait for the timer to go off as well as for the rest of the class to finish before they could move forward to the next activity of the lesson. Thus, teaching practices led to uneven application of appropriately challenging tasks for all learners.
## Additional Finding

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<thead>
<tr>
<th>Quality Indicator:</th>
<th>1.1 Curriculum</th>
<th>Rating:</th>
<th>Proficient</th>
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### Findings

English Language Arts (ELA) and math instructional shifts are integrated into Common Core Learning Standards-aligned curricula, such as balancing informational and literary text and math fluency. Unit plans and lessons are designed to include academic tasks that are accessible to a variety of learners.

### Impact

Across grade levels, a diverse group of learners are cognitively engaged in standard-based curricula.

### Supporting Evidence

- Analysis of curricula reveals the inclusion of several instructional shifts across content areas and grade levels. Literacy units include a balance of informational and literary texts, and tasks are designed to emphasize citing evidence from sources to make and support a claim. In a second-grade science unit plan, students were charged with the task of creating sticky glue to be used in school. Students read a non-fiction text about the composition of everyday items to help them deepen their understanding of the importance of the properties of materials. Students then made and tested their own glue recipes. Students used the information from this process to write a letter to the principal that included a culminating argument about which glue recipe they thought best met the needs of the design goal. Additionally, the math curriculum was revamped this school year, and all units now include activities centered on the shift of promoting fluency and skill acquisition. For example, across all math unit plans, there are games and activities designed to enhance skill development build fluency. In a grade three math unit lesson plan on multiplication, students were assigned activities that required them to practice skipping by 2s, 3s, 4s, and 5s and play multiplication bingo. In a fifth-grade unit on adding and subtracting decimals, students played dueling decimals and practiced identifying decimals greater than one.

- Analysis of curricula shows that lesson plans across all content areas and grade levels include lists of supports geared to meeting students’ needs. A kindergarten social studies unit plan incorporated leveled readings, graphic organizers, images, and tactile kinesthetic tracing. In a grade five unit on patterns of earth and sky, students conducted an investigation on visibility of stars during the day and at night. Students had to observe the position of constellations over time, chart their findings, and explain their thinking. The unit included scaffolds such as leveled text and a multi-lingual glossary to address the needs of English Language Learners (ELLs). A first-grade ELA unit study on story elements included a list of specific instructional strategies that would be used to meet the needs of students with disabilities. The plan applied the guidelines for Specially Designed Instruction (SDI) to optimize teaching and enhance the learning of students with speech and language delays. For example, modeling, guided repetition, and time delay were the selected strategies included to support expressive language. There was also a description of the teaching methodologies that would be used to address listening comprehension, fluency, receptive language, and social communication skills. These features support engagement for both ELLs and students with disabilities, ensuring that all learners have access to the curricula.

- Across grades, unit structures allow for different pathways to understanding for diverse learners. Inquiry-driven social studies lessons incorporate reading, writing, and technology and require students to create projects. For example, kindergarten students actively engaged in a unit entitled “Geography, People, and the Environment,” focusing on the features of a neighborhood and changes to an environment over time. Students analyzed maps and compared photographs taken in the same location 75 years apart. By the end of the study, students created a model of buildings in the neighborhood and a map with a legend and symbols. The unit plan included leveled libraries and shared readings at different levels based on data derived from running record assessments as well as graphic organizers and scaffolds for students with disabilities.
Additional Finding

| Quality Indicator: | 2.2 Assessment | Rating: Developing |

Findings

Ongoing common assessments such as running records are aligned to the curricula and are given across grade levels. Across classrooms, teachers' assessment practices inconsistently reflect the use of ongoing checks for understanding, and students are provided with limited feedback on their work.

Impact

Although common assessments are administered, they are inconsistently used to measure students’ growth. Furthermore, the instructional adjustments being made do not yet support all students, and feedback given to students based on rubrics is not yet actionable.

Supporting Evidence

- Schoolwide common assessments include beginning-of-year benchmark assessments in reading, writing, and mathematics. Presently, the school is developing their use of common assessment results to measure students’ growth across content areas. While the school was able produce data that measured individual student progress and/or demonstrated growth from the beginning of the year in reading, this was not the case for math and writing. For example, school leaders were able to provide individualized reading benchmark results and identify students struggling in one or more curriculum areas that needed teacher attention. They were also able to provide artifacts that detailed the ongoing adjustments being made to curricula respective to each grade level. However, the documents provided during the visit revealed limited evidence of these practices taking place in math and writing.

- School leaders indicate that teachers have begun to take criteria from rubrics to craft student-friendly feedback to guide students’ performance on learning tasks. For example, a review of several math constructed response work samples included teacher comments specific to areas which needed improvement. Sample feedback included, “Great job drawing a chart and using symbols to solve your problem. Next time explain what you did to solve the problem step by step,” and “Great work next time try solving the problem using models and explain your thinking.” However, this practice is not yet happening across all content areas. There were multiple occurrences of students receiving feedback without the presence of a rubric or vice versa. For example, a fourth-grade student received feedback that complimented her penmanship and asked her to stretch the volume on her piece by including more details. However, there was no rubric attached to the writing identifying the grading criteria for the assignment. Feedback provided on a science work sample stated, “You are correct in your response. In the future please remember to include punctuation in your writing if you want others to believe in your explanation as a true scientist.” Furthermore, during a student meeting, some students indicated that they could not articulate the feedback being provided in their own words.

- During lessons observed, teachers monitored and checked-in with groups of students to assess understanding of the learning. However, across classrooms, there was limited evidence of adjustments being made to provide supports to struggling students and extension opportunities for high-performing students. In a grade four literacy class, the teacher circulated the room to monitor student performance in centers. One group was unclear about the expectations of the task, struggling for approximately 10 minutes before their concerns were addressed. During a third-grade ELA lesson, the teacher tracked students’ performance in centers. Although one group of students demonstrated mastery of the concept highlighted in their center, the teacher did not make any in-the-moment adjustments to further challenge these students. They continued working on the same task until center time was over.
Additional Finding

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<th>Quality Indicator:</th>
<th>3.4 High Expectations</th>
<th>Rating:</th>
<th>Proficient</th>
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**Findings**

School leaders consistently communicate high expectations to the entire staff through a staff handbook, professional development opportunities, emails, and a weekly memo. School leaders and staff consistently help families to understand their children’s progress towards expectations through parent workshops and teacher-created progress reports.

**Impact**

School leaders have established a system of accountability among staff, and they have partnered with parents to consistently communicate expectations connected to a path to college and career readiness.

**Supporting Evidence**

- School leaders’ opening day presentation to staff included information about the most recent schoolwide test data, the Comprehensive Educational Plan school goals, and the school’s instructional focus: “To promote more effective forms of assessment across all grades and subject areas by articulating clear learning objectives.” In addition to a staff handbook, school leaders distribute a weekly school memo entitled to consistently communicate high expectations to staff. This document provides on-going updates regarding schoolwide events, professional learning opportunities, and compliance concerns. For example, edition #17 included a link for teachers to access reading resources such as checklists, anchor charts, and samples of student work to supplement the school’s reading curriculum.

- School leaders and teachers host parents at an annual curriculum night to review the parent handbook and unpack the expectations for promotion on each grade level. Throughout the year, parents are invited to participate in a wide range of workshops dealing with such topics as attendance, literacy, the Individualized Educational Program (IEP), stress management, and the middle school application process. Additionally, school leaders and teachers send out a monthly parent newsletter that offers insight and information about current units of study, standards being addressed, and initiatives taking place across grade levels. Staff at the school have also developed progress reports for kindergarten through grade five that give parents information on their children’s academic and social/emotional progress. These partnerships provide an outlet for ongoing feedback that helps families understand student progress towards expectations connected to college and career readiness.

- An analysis of teacher observation reports reveals that school leaders conduct frequent classroom visits, and feedback provided to teachers is aligned to the Danielson Framework for Teaching as the standard for professionalism and quality instruction. In September, teachers received a professional learning calendar detailing the support being provided to meet expectations set by school leaders. Training topics were derived from trends identified across classroom observations and are designed to accelerate teacher development. For example, in November teachers and paraprofessionals all participated in training that showed them how to align learning objectives to assessments, which supports the school’s instructional focus. Teachers are also given the opportunity to attend internal and external workshops based on individual needs. Staff agreed that school leaders’ open-door policy creates a culture of collaboration and mutual accountability consistent with the school’s expectations.
Additional Finding

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<th>Quality Indicator:</th>
<th>4.2 Teacher Teams and Leadership Development</th>
<th>Rating:</th>
<th>Proficient</th>
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</table>

Findings

The majority of teachers are engaged in structured, inquiry-based professional collaborations. Distributive leadership structures, such as teacher-led committees and a vertical team, are in place.

Impact

Professional collaborations strengthen teacher pedagogy and allow them to have a voice in key decisions that affect student learning across the school.

Supporting Evidence

- Teacher Teams develop and implement schoolwide instructional practices to support school goals and promote student achievement. At the end of each teacher team meeting, Learning Logs are submitted to administration and reviewed on a regular basis. These logs outline strategies being discussed and explored by teachers to support the school’s established goals. For example, fifth-grade team logs provided insight into the group’s decision to closely analyze and evaluate the language of word problems associated with adding and subtracting fractions with unlike denominators. After reviewing student work samples, the team noticed that many students are able to complete the mathematical computations, but they were unable to apply these skills to word problems. The team decided to provide instruction that would emphasize math vocabulary development. According to a first-grade team’s learning log, teachers implemented the use of story webs and story mapping to improve students’ ability to create realistic fictional stories.

- Most teachers are engaged in structured, inquiry-based collaborations that strengthen their instructional capacity. The fourth-grade team was observed reviewing constructed response writing samples collected from students across the grade. Team participants stated that the instructional lens of the team varies from month-to-month based on the immediate needs of students. For this session, the team examined a sample of student writing in response to informational and narrative texts. Such a balance of texts supports the ELA instructional shifts. Although the team did not follow an official protocol, there were guiding questions that determined the scope of the work. Participants also graded the work with a common rubric. Team members took turns sharing their responses to the questions. At the end of the meeting, teachers created a list of the next steps for instruction, which included reviewing paragraph structures and ensuring students use relevant details when responding to the questions. Team participants agreed that they valued these meetings and incorporated the learning from them into their lessons.

- Distributive leadership structures such as teacher-led committees and the vertical team help build the capacity of teachers and allow for the inclusion of their voices in decisions impacting student learning. For example, The Continuous Learning Team, co-chaired by a special education teacher and an English as a New Language teacher, meet on a weekly basis to address literacy needs of their target group, comprised of selected second-grade ELLs and students with disabilities. The team made the instructional decision to incorporate sentence frames as supports for student discussion. As a result of their efforts, there has been a sixty percent increase in oral language development using response frames in peer discussions among the target group participants. Team members also shared that the ideas generated from this working group are used with students across the second grade, when applicable. Consequently, the work of teacher teams has positively affected student growth.