



Quality Review Report

2015-2016

School of Science and Technology

Elementary School K152

**725 East 23rd Street
Brooklyn
NY 11210**

Principal: Carol Sheldrick

**Date of review: November 19, 2015
Lead Reviewer: AJ Hepworth**

The School Context

School of Science and Technology is an elementary school with 805 students from grade pre-kindergarten through grade 5. In 2015-2016, the school population comprises 5% Asian, 65% Black, 26% Hispanic, and 3% White students. The student body includes 13% English Language Learners and 17% students with disabilities. Boys account for 52% of the students enrolled and girls account for 48%. The average attendance rate for the school year 2014-2015 was 93.7%.

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	Additional Findings	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	Celebration	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	Focus	Proficient
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	Additional Findings	Well Developed

Area of Celebration

Quality Indicator:

1.2 Pedagogy

Rating:

Well Developed

Findings

Across the vast majority of classrooms, teaching practices are aligned to the curricula and reflect a coherent set of beliefs about how students learn best through effective communication, peer collaboration and rigorous instruction.

Impact

Students demonstrate clear thinking, participation, and ownership of their work based on the school's core beliefs. Strategic inclusion of multiple entry points has ensured all students are engaged in appropriately challenging tasks and demonstrate higher-order thinking skills in their work products.

Supporting Evidence

- Students in a grade 4 math class were grouped strategically according to level by color-coding the task for groups at three levels: on level, below level, and advanced level. The students assumed the responsibility of helping each other in their group by having one member facilitate, another read the question, while the remaining members collect the facts they hear. Students in the below level group were able to model their word problem using math boards with action phrases. The on level students had to draw a bar model based on the word problem while the advanced group was given a more challenging word problem which required them to write a story problem that matches the array. When one partner shared out in her group another classmate corrected her saying "your mistake was a confusion of..."
- In an English Language Arts class students are writing about any topic of their choice that they know a lot about. They are supporting it with three paragraphs and using a rubric "because we want the reader to be interested in our writing and have as much information as possible." Students are collaborating with either the teacher or another student to review their organization. Several students are using laptops to outline their thoughts while others are using graphic organizers. Students shared that they use the writing folders on the wall to "help us inspire our writing so we can know what to do better and use more vocabulary."
- In a first grade science class students were strategically grouped for an independent group activity on defining characteristics used to classify animals. Below-level learners were given a three-column chart to sort animal pictures with the aid of teacher prompts. On level students were given a four column chart and told to work with their group to discuss and sort the animals. The above level students were given a six-column chart and a greater array of animals including a mammal, bird, fish, insect, reptile, and an amphibian. Students challenged each other in their small groups when placing certain animals into specific groups. For example, one child thought although a bat has wings, "that it doesn't have feathers and it does have lots of hair on its head so it must be a mammal!"
- Students in a kindergarten class engaged in a Socratic seminar discussion by agreeing or disagreeing with one another about the differences and similarities between a house and an apartment. Several students shared that they thought they were the same because they are both made of bricks while others thought they are different based on their size.

Area of Focus

Quality Indicator:	3.4 High Expectations	Rating:	Proficient
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Findings

School leaders, teacher teams, and staff consistently communicate expectations that are connected to a path of college and career readiness and offer ongoing feedback to families and students through the dissemination of information.

Impact

Ongoing detailed feedback, guidance, and advisement helps establish an understanding of expectations and progress toward preparation for the next level, although the lack of a strong partnership with families and unified systems for students limit increased involvement and hinders students taking ownership of their preparation for the next level.

Supporting Evidence

- Several of the classes use ClassDojo, a digital classroom management tool designed to help teachers communicate more effectively with parents. The school has made a point to, “further encourage parent involvement and help keep parents abreast of current standards.” Two-thirds of parents said ClassDojo is their “life line” to knowing how their child is doing in class. However, not all students were aware of their teacher using ClassDojo in the class or as a tool to communicate with their parents.
- The school communicates expectations in literacy and math to families through the provision of a newly created Parent Handbook. Parents shared they were aware the school was preparing their child for the state assessments through the class work, extra-help sessions offered (although only one of six parents shared their child went to the sessions), and they felt the school has enhanced some of its instruction since their older children had gone to the school through efforts to improve writing instruction by requiring the student to use more description, detail, and examples in their writings.
- Parents shared they felt the school was developing rigorous instruction for most students, but felt those requiring an Individualized Education Plan are in classes too large for the school to appropriately meet the individual needs of their child. Additionally, the scaffolds in class were helpful according to the child and parent, but they felt the level of homework was not on par with the level necessary for demonstrating increased mastery. The parents attributed the limitations of achieving increased mastery by some students was a fault of the school’s large class sizes and teachers being limited in their time with each student.
- Students stated they receive high expectations from their teachers through the feedback on their assignments. Observations of post-it notes from most of the classrooms reflected actionable feedback. In several of the classrooms, feedback posted on assignments included “make sure you use all place values,” “next time try not to repeat info,” “next, add how animals adapt,” and “your intro was good, next time add a focus to your essay.” Although most students communicated they felt the feedback helped prepare them for the next level, some of the feedback included recommendations of content matter or writing prompts and did not include strategic steps to help the student move to the next level.
- Every day, as part of the morning announcements, students read the school wide pledge on the loud speaker. “We will always try our best. We will show attention with our eyes and ears. We will show respect for ourselves and for everyone in our school community.”

Additional Findings

Quality Indicator:	1.1 Curriculum	Rating:	Well Developed
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Findings

School leaders and faculty ensure that curricula are aligned to Common Core Learning Standards and strategically integrate the instructional shifts through emphasizing rigorous habits and higher order thinking skills embedded in a coherent way across grades and content areas.

Impact

College and career readiness is promoted for all students across grades and content areas through demonstration of higher-order skills.

Supporting Evidence

- Lesson plans from math, English Language Arts, and science classes all contained tasks that addressed Common Core State Standards. Additionally, they all included a teaching point of what the students will be able to do as a result of the lesson. For example, they said, “Mathematicians will solve problems involving multiplicative comparison and additive comparison,” “Science students will identify the characteristics of their home and how they are alike and how they are different, and “Good English Language Arts writers give voice to nonfiction writing by commenting on details.”
- The vast majority of planning documents evidenced a coherent expectation that students meet Common Core State Standards in Speaking and Listening. Standards listed in curricular documents aligned to the Common Core included: responding thoughtfully to diverse perspectives, summarizing points of agreement and disagreement; and initiating and participating effectively in a range of collaborative discussions.
- Curricular documents clearly define the expectations of students below level, on level, and above level. Tier II and Tier III intervention is identified for lessons with specific activities, games, and reads. Activities for skill development are listed at all levels as well. In math, intensive intervention activities for skill development include many specific approaches.
- Rigorous tasks that promote higher-order thinking across grades and subject areas are evidenced in all lesson and unit plans with exemplars provided to students. A reading learning progression is provided in English Language Arts that includes: literal comprehension, interpretive reading, and analytical reading. The documents are a part of a collaboration the school has with Teachers College to increase rigorous instruction.
- School leaders noted they have raised cognitive engagement among English Language Learners and students with disabilities through clustering them in one class in each grade with a heterogeneously group to provide curriculum that is more personalized. Additionally, they have scheduled two staff members in all of these strategically designed classrooms so teachers can co-teach across the whole classroom while still being able to provide one-to-on conferencing with next steps.

Quality Indicator:	2.2 Assessment	Rating:	Well Developed
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Findings

The school uses common assessments to create a clear picture of student progress towards goals across grades and subjects, track progress and adjust curricula. Across the vast majority of classrooms, teachers' assessment practices consistently reflect the varied use of ongoing checks for understanding and student self-assessment.

Impact

Common assessment instructional decisions are designed so that all students, including students with disabilities, demonstrate increased mastery while ensuring they are aware of their next learning steps.

Supporting Evidence

- Checks for understanding are an integral part of daily instruction in the school. For example, the school has implemented the practice of glows and grows for all students in all classes and content areas. According to a grade five student, the glows and grows program provides, "a good thing someone found in your work and something you can do to improve."
- Through conferencing, teachers provide actionable feedback to students in brief, private conferences. Teachers maintain records of the students they conference with and provide a compliment, teaching point and next step. In an English Language Arts class, students were observed conferring with their teacher at a table in the middle of the room while all others worked independently. The teacher provided students with individual feedback such as: "Work on elaborating some parts to slow the reader down," "Focus more on the relationship with dad than on actual splits," "Need to add some transition words that shows things happening at the same time," and "Include more of character thinking and develop plot further." In a math class, the teacher provided feedback to each student including conference notes and post-its as well.
- Through work with Teachers College, the school has developed a goal to move 75% of readers three or more reading levels. Last year the school achieved 79%. They report this is the result of the amount of conference notes they are providing students according to the workshop model. Observations have also confirmed that an increase in the practice of conferencing has caused an increase in student engagement in addition to increased reading levels.
- The school hired a new Academic Intervention Services (AIS) teacher who supports core content teachers with analysis of state assessment data to help them make effective adjustments in the classroom to meet the needs of their students.
- Student self-assessment sheets are provided to students so that they may record where they have strengths, what they are struggling with, how their teacher can help them and how their parents can help them. Students across grades also use writing checklists during the writing process to ensure they are preparing their work on grade level through self-reflection prior to publishing any document. Students identify their success of structure, development, and language conventions by using a rubric form with descriptors and cartoon drawings for each element they evaluate themselves on.

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 collaborations that have strengthened teacher instructional capacity through the systematic analysis of key elements in teacher work including practice, assessment data, and student work.

Impact

School wide coherence of instruction has increased student achievement for all learners and improved shared teacher practices and mastery of goals.

Supporting Evidence

- At the beginning of the current academic year the school administered a survey for professional development to all staff. The survey was designed to provide data regarding the needs of planning school-wide professional learning. Through the professional learning sessions the staff reports they have been able to strengthen their instructional capacity by analyzing the successful elements of their colleagues' teaching practice and by implementing cognitively demanding tasks that promote reasoning and problem solving.
- Teachers attend professional development in various content areas, specifically with Teachers College. Upon completion of the professional development, the teachers turnkey the methodology during the weekly 80-minute scheduled professional time. All staff report having been a part and engaged in the turnkey process during the current school year. In September, several teachers led a session on reading and introducing new books to their colleagues. The instruction focused on tips for how to initiate new reading levels with students. Teachers report the trainings have improved their ability to introduce challenging and more complex text to their students, including those that struggle with difficult vocabulary and text. Additionally, another teacher led professional development session focused on purposeful understanding of supplemental technology resources which many teachers reported having initially found difficult to use with their instructional practice.
- A data specialist reported her involvement with the teacher team has allowed her to provide information for focus groups to move students targeted for scoring a 1.8 to 2.41 in English Language Arts strategically closer to a Level 3.
- Inquiry teacher teams use the established National School Reform Faculty tuning protocol to conduct their inquiry meetings. During the examination of student work samples, one facilitator was observed explaining that she is having difficulty with some of her students, including English Language Learners and their writing of an opinion piece. She shared copies of below-, mid-, and high-level grade 4 writing samples. She included a rubric for information writing and instructed the room to look for trends in each of the strategically leveled groups. Members of the inquiry team reported out with suggestions upon completion of reading the students' essays. Suggestions from the teachers reading the high-level essays included notifying the students of when time is nearly up for writing because it appeared they ran out of time to further develop their conclusion based on the rest of the essay. Feedback for students at the mid-level were to help increase their use of transition words with the inclusion of a transition word list taped to their desk as a reference when writing.