



**Department of
Education**
Carmen Fariña, Chancellor

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

Quality Review Report

2014-2015

**Elementary School for Math, Science, and
Technology**

Elementary School X382

**125 East 181 Street
Bronx
NY 10453**

Principal: Avon Connell Cowell

**Date of review: May 18, 2015
Lead Reviewer: Mark Ossenheimer**

The School Context

The Elementary School for Math, Science, and Technology is an elementary school with 281 students from kindergarten through grade 5. The school population comprises 25% Black, 74% Hispanic, and 1% Asian students. The student body includes 29% English language learners and 13% special education students. Boys account for 48% of the students enrolled and girls account for 52%. The average attendance rate for the school year 2013-2014 was 93.0%.

School Quality Criteria

Instructional Core		
<i>To what extent does the school...</i>	Area of:	Rating:
1.1 Ensure engaging, rigorous, and coherent curricula in all subjects, accessible for a variety of learners and aligned to Common Core Learning Standards and/or content standards	Additional Findings	Proficient
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	Focus	Proficient
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	Celebration	Proficient
School Culture		
<i>To what extent does the school...</i>	Area of:	Rating:
3.4 Establish a culture for learning that communicates high expectations to staff, students, and families, and provide supports to achieve those expectations	Additional Findings	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	Proficient

Area of Celebration

Quality Indicator:

2.2 Assessment

Rating:

Proficient

Findings

The school uses common assessments to determine student progress toward goals across grades and subjects. Across classrooms, teachers' assessment practices consistently reflect the use of ongoing checks for understanding.

Impact

The use of school-wide and classroom level assessments measures student progress and informs instructional decisions at the team and classroom levels.

Supporting Evidence

- The school uses Fountas and Pinnell to measure student progress in literacy. The assessments are administered three times a year for general education students and four times a year for English language learners. Identified struggling readers are further assessed using the Probe 2 Reading Comprehension Assessment. A review of unit plans indicates that teachers use the assessments to reorganize students for leveled reading groups as well as to revise classroom level interventions or teaching strategies for students within specific groups using the Fountas and Pinnell levels. For example, a grade 4 instruction plan for small group and guided reading, placed students by level with targeted strategies. Level S students were to develop reading comprehension strategies through the text, and Level T students were to develop the same strategy and build upon it by using supporting details.
- The school uses the Number Fluency Assessment (NFA) three times a year to measure student progress in the stages of learning regarding counting, numeration, addition and subtraction, and multiplication and division. Teachers use the assessments to plan math centers that target the specific math concept students need to master in order to move to the next level. For example, a grade 2 plan after the February administration indicates students by level under the topic of numeration. Students working towards a Level 3 focus on being able to model 3 digit numbers using base 10 blocks, while those students listed as working towards a Level 4 focus on being able to model 4 and 5 digit numbers.
- Teachers consistently use conferencing and checklists as tools for checking for understanding during lessons. For example, the teacher during a grade 5 math lesson on coordinate grids and line plots used a checklist that tracked the quality of student work products during independent and group work time. The sheet indicated every student was checked in with daily throughout the week, and the teacher used the list to plan re-teach small group instruction during the independent work time. During a grade 3 reading lesson the teacher used both a checklist and a running record conference note system to track student understanding and develop next steps for the students. Tracked skills included predicting outcomes and changes in character, while goals for individual students included "needs to work on using reading strategies flexibly for more complex words."

Area of Focus

Quality Indicator:

1.2 Pedagogy

Rating:

Proficient

Findings

Across classrooms, teaching practices are aligned to the curricula and reflect an articulated set of beliefs about how students learn best that is informed by the Danielson Framework for Teaching. Across classrooms, teaching strategies consistently provide multiple entry points into the curricula so that learners are engaged in appropriately challenging tasks.

Impact

Teacher pedagogy across the majority of classrooms is engaging and meets the needs of learners; however, there are pockets where teachers miss opportunities to provide students with needed scaffolds or extensions.

Supporting Evidence

- During a grade 1 math lesson, students were divided into two groups A and B. The teacher provided a mini-lesson on measurement using the Go Math curriculum to Group A using manipulatives to provide multiple entry points for students. Students in Group B were strategically placed at tables to address counting and addition concepts based on the NFA assessment. For example, one small group used flip cards to determine if the two numbers added up to 10 or not, and then used sentence starters to explain the answer; a different group used dice to add in a game of “Connect Four.” During the lesson, the students switched and Group B went to the carpet for the mini-lesson and Group A went to their assigned small group tables. In a different math lesson in grade 4, the teacher used a similar structure of conducting a mini-lesson for a targeted group of students with other students grouped to work on the NFA concepts of multiplication and division. However, English language learners in small group work had difficulty accessing the word problems on division and needed additional scaffolds or different entry points.
- The teacher during a grade 2 reading lesson used a read aloud of *James and the Giant Peach* to engage students with questions asking them to use examples from the text to support their answers during whole class discussion. Students engaged in structured turn and talks before providing whole class answers that ensured all students were able to demonstrate their thinking and engage with the question. The teacher used a Thinking Map as part of the school’s instructional focus to provide students with tools to organize their thinking. Questions and answers were color coded on the map for summarizing, for connections to other text, and for inference levels.
- A grade 4 writing lesson involved whole class modeling of revising a paragraph, using the state rubric, in student essays analyzing how the author Patricia Polacco demonstrates culture within her books. The teacher used actual student work to model revision of an essay paragraph, used equity sticks and think time to call on students during the whole class activity, and used the Content and Analysis section of the New York State Common Core aligned rubric. In the transition to individual work time, the teacher pulled a small group to the carpet for targeted instruction. However, some students struggled in the transition of using the written teacher feedback on their folders on the specific areas in their essays.

Additional Findings

Quality Indicator:	1.1 Curriculum	Rating:	Proficient
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Findings

The school leader and faculty ensure that curricula are aligned to the Common Core and integrate the instructional shifts. Curricula and academic tasks are planned and refined using student work and data.

Impact

The school's curricular decisions build coherence, promote college readiness, and ensure a diversity of learners, including English language learners and students with disabilities, have access to the curricula.

Supporting Evidence

- A review of school curricula and units of study across grades indicates that English language arts, social studies and science curricula are aligned to the Common Core standards for reading and writing. Instructional shifts include increased use of informational texts and writing that includes text-based evidence to support claims. The math curriculum demonstrates purposeful decision-making using Go Math for whole class instruction and the use of TERC lessons and centers for strategic supports and entry points. For example, a grade 1 unit on addition includes elements from each curricula and alignment to the specific Common Core Standard it addresses.
- The school-wide strategy of using Thinking Maps to create a common language and set of tools for students regarding key cognitive processes is embedded into units and lesson plans across subject areas. For example, Bubble Maps are used when describing qualities. A review of lesson and unit plans show Bubble Maps used in English language arts when students are describing characters using adjectives, in social studies when describing key characteristics of cultures, and in math with students identifying properties of numbers, such as the number 10.
- In order to address the needs of English language learners the school has adopted the Sheltered Instruction Observation Protocol (SIOP) for lesson planning. A review of lesson plans indicates the key model components of Preparation, Building Background, Strategies, Lesson Delivery, and Assessment are used across grades. For example, a grade 4 English language arts lesson plans for students to Build Background by revisiting an earlier revision wiring piece in order to prepare to revise their current essay. A grade 5 math lesson plans to build background by linking the concept to student personal experience by visualizing a detached apartment building with windows on all four sides.

Quality Indicator:	3.4 High Expectations	Rating:	Proficient
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Findings

The school leader consistently communicates high expectations regarding professionalism and instruction connected to the Danielson Framework for Teaching to the entire staff. The school leader and staff consistently communicate high expectations for all students to families and students offering ongoing feedback and guidance supports.

Impact

The culture for learning communicates high expectations to staff, students, and families and provides supports to achieve those expectations.

Supporting Evidence

- The principal communicates expectations to staff through a published faculty handbook that includes all professional and instructional expectations. The school’s instructional focus of embedding higher order and critical thinking into instruction using Thinking Maps (TM) is communicated in both the handbook, weekly email updates to staff, and frequent feedback. A review of professional development plans demonstrate that teachers are supported in implementing the instructional focus through twice monthly professional learning sessions dedicated to Thinking Maps. The plan includes benchmarks for success that include the planning for TM, student use of all eight models, and the use of TM to differentiate instruction for ELLs.
- Parents reported that the school communicates effectively from the office, to classroom teachers, to the school principal. Parents cited an open door policy, as well as regular workshops that help them work on academics with their children at home. For example, parents discussed a workshop on Thinking Maps that taught them how to understand their purpose and how to use them if helping the children with homework. The school produces a family handbook in both English and Spanish that includes all expectations and offers sections that parents can use to support the overall learning of their children both inside and outside of school. For example, the handbook includes sections on “Supporting Homework Success” and “Making the Most of Parent-Teacher Conferences.”
- Students receive feedback and establish goals with classroom teachers. For example, student work in a classroom had posted writing goals from March with corresponding recent student work demonstrating the working towards the goal. One student had written a goal of “I need to use details and I need to put my evidence in the text” attached to a Measure of Student Learning (MOSL) task using non-fiction text. Students know their math progress because of charts in classrooms that list students and the four assessed areas of the NFA with student friendly objectives. For example, in one classroom under Numeration were the students who were proficient (Level 3) with the corresponding content and skills such as “I know 10 more/less than a 3 digit number.” In the student meeting, every student knew his or her Fountas and Pinell reading level from September and February, discussed their growth, and their goal for the May assessment.

Quality Indicator:	4.2 Teacher teams and leadership development	Rating:	Proficient
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Findings

Teachers are engaged in structured inquiry based professional collaborations that promote the achievement of school goals and the implementation of the Common Core Learning Standards. Teacher teams consistently analyze student work and assessment data for students they share.

Impact

Professional collaborations result in strengthening the instructional capacity of teachers and in progress toward goals for students.

Supporting Evidence

- All teachers participate in weekly grade team meetings that include classroom and cluster level teachers to plan units and lessons across subjects, as well as to make adjustments for literacy, math, science, and social studies. Generation Ready curriculum consultants for English language arts and math meet every other week with grade teams to continue curriculum development and refinement at the grade level.
- Grade teams develop target groups based on assessments that are the focus of planning for differentiation in lesson plans. Assessment data are formally collected several times annually: three to four times in literacy and three times in math. These data are analyzed at grade meetings where teachers share their observations, noting patterns and trends including areas of mastery and challenges. Data from the fall administration was used to determine the target population of students on each grade and the Response to Intervention (RTI) supports that needed to be established. The target groups were then adjusted in the winter administration of the literacy and math assessments at the grade team level.
- An observed team of grade 1 teachers used data from the NFA math assessment to group students for a math lesson, discussed knowledge gaps, and developed instructional plans to address those needs. For example, it was noted that a group of lower performing students were not transferring a strategy of counting by 10s after a previous math center that used a repetition game. The team collaborated on designing a new center that would provide students with multiple visual representations of 10 using manipulatives that would provide a conceptual framework of the number.
- Teachers at a different teacher meeting discussed the work of the teams in developing teacher practice in implementing the Common Core and the instructional shifts using TM across the school. The framework has given teachers a common language across grades to plan curriculum and to differentiate for students more strategically. Department meetings are held monthly in order to align curriculum vertically and share best practice within content areas.