Quality Review Report

2014-2015

The Magnet School for Math and Science Inquiry
Elementary-Middle School K192
4715 18 Avenue
Brooklyn NY 11204
Principal: Liset Isaac

Date of review: May 1, 2015
Lead Reviewer: Karina Costantino
The Magnet School for Math and Science Inquiry is an elementary-middle school with 656 students from grade PK through grade 8. The school population comprises 3% Black, 50% Hispanic, 24% White, and 22% Asian students. The student body includes 31% English language learners and 24% special education students. Boys account for 51% of the students enrolled and girls account for 49%. The average attendance rate for the school year 2013-2014 was 94.0%.

### School Quality Criteria

<table>
<thead>
<tr>
<th>Instructional Core</th>
<th>Area of:</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 Findings</td>
<td>Well Developed</td>
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<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>Focus</td>
<td>Proficient</td>
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<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 Findings</td>
<td>Well Developed</td>
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<thead>
<tr>
<th>School Culture</th>
<th>Area of:</th>
<th>Rating:</th>
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<tbody>
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<td><strong>To what extent does the school…</strong></td>
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<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>Celebration</td>
<td>Well Developed</td>
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<tr>
<th>Systems for Improvement</th>
<th>Area of:</th>
<th>Rating:</th>
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<td><strong>To what extent does the school…</strong></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 Findings</td>
<td>Well Developed</td>
</tr>
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</table>
Area of Celebration

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

Findings
School leaders consistently emphasize a culture of learning that communicates high expectations, provide training and have a system of accountability for those expectations. School leaders and staff effectively communicate expectations connected to a path to college and career readiness and successfully partner with parents to support student progress.

Impact
High expectations result in a culture of mutual accountability, collaboration, and buy-in on the part of teachers, leaders, and families, thus creating an atmosphere conducive to the developmental needs of all students. School leaders successively partner with families to support student independence, progress and ownership of learning.

Supporting Evidence
- The school established a professional learning team consisting of teachers and administration to first identify teacher needs via surveys across grades subjects, and provide training. Advance data revealed that teachers struggled with Danielson components 3b, 3c, and 3d. Teachers design professional learning opportunities then inter-visit with colleagues to see specific lessons including traits of the Danielson Framework for Teaching and Common Core Learning Standards skills such as using textual evidence and student mastery of multi-step word problems. Ongoing professional learning for teachers by teachers and school leaders in these components occur at least once per week. The professional learning calendar is updated at least three times per year.

- The school communicates to parents in writing on a bi-monthly basis. Grade level teacher teams create a newsletter detailing what each grade will be working on in reading, writing, mathematics, science, and social studies and includes important reminders and tips for families at home to support student progress. Additionally, the principal writes a monthly parent newsletter noting important parent workshops, academic supports and weather advisories. The school connects with families via the eChalk online platform. A parent newsletter detailing key events upcoming events, trips, PTA meetings also lists a monthly curricular overview for all subjects K-8.

- Parents volunteer to be trained and participate in a Learning Leaders program where parents provide classroom supports for teachers including noting student comprehension, conducting read-alouds, chaperoning school trips, reproducing resources and assisting with student behavior management. The school also hosts a career day where over fifty professionals from unique careers including fireperson, doctor, and engineer are represented to promote college and career readiness.
Area of Focus

| Quality Indicator: | 1.2 Pedagogy | Rating: | Proficient |

Findings
Teaching practices consistently provide multiple entry points for all students including English language learners (ELLs) and students with disabilities. Student work products and some student discussions reflect high levels of student thinking and participation.

Impact
Students, including ELLs and students with disabilities are engaged in appropriately challenging tasks and demonstrate higher-order thinking skills in student work products. However, questioning and discussion techniques are not yet strategically implemented and there is some missed opportunities for students to consistently demonstrate their thinking across all classrooms.

Supporting Evidence
- In classrooms, struggling students receive individual checklists on index cards tailored to their specific needs to aid in task completion. Index cards read "What might the author want me to know about this topic?" and "Why is this topic important?"

- In classrooms, struggling students receive individual checklists on index cards tailored to their specific needs to aid in task completion. Index cards read "What might the author want me to know about this topic?" and "Why is this topic important?" However, in a few classrooms, students use Cornell note-taking which requires students to take a more active role in their note-taking by formulating questions, paraphrasing and noting next steps.

- Students in flexible groups worked on tiered activities with unique scaffolds and resources in the majority of classes. For example, in an eighth grade math class, students in one of three tiered groups were either provided a lab sheet graphic organizer, labeled graphs, and simplified tasks. A more advanced group received an additional task where they needed to answer an additional problem where students extended their learning by exploring how adding a constant changes the graph. In a grade 3 math class, students in tiered groups solved multistep elapsed time word problems using one of three unique teacher-created tasks. If students answered the multiple choice correctly, their correct answer strategically prompted students to begin the advanced activity. For example, “answer 7 – go to question #3.”

- In some classrooms, teachers stepped out of their mediating, central role and facilitated learning opportunities through student discussions and engaging tasks. For example, in grade 7 ELA class, students in flexible groups chose one of two student discussions about memoirs to join prior to writing their first draft. For ELLs, the discussion was centered on student group roles while students with disabilities’ discussion centered on the definition of memoir and activating prior knowledge. However, this practice was not observed across all subjects and grades.
**Additional Findings**

<table>
<thead>
<tr>
<th>Quality Indicator:</th>
<th>2.2 Assessment</th>
<th>Rating:</th>
<th>Well Developed</th>
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**Findings**

Across the vast majority of classrooms, teachers design and use assessments, rubrics and grading policies aligned with the school’s curricula. The school uses common assessments to create a clear picture of student progress towards goals across grades and subjects, track progress, and adjust curricular and instructional decisions.

**Impact**

School assessments provide actionable and meaningful feedback to students and teachers regarding student achievement across grades and subjects. The school strategically makes adjustments to meet all students’ learning needs, including ELLs and students with disabilities to ensure there is a clear portrait of student mastery.

**Supporting Evidence**

- School practice in developing Common Core Learning Standards aligned assessments, rubrics, and grading policies are consistent and cohesive across grades and subjects. Rubrics are written in student friendly language. Teachers design and use multiple assessments and track data to impact instruction. Data from Teachers College Assessment Pro, running records, conference notes, end of unit assessments, pre- and post on demand writing tasks are used to identify specific student academic levels to inform flexible student groupings and tasks. For example, in Kindergarten, students were grouped in one of two tiers based on student reading ability. From these two groups, each individual student was given a specific task aligned with skill level and specific task activity. One example observed was a student specifically provided an Level A reading book with a visual matching chart to build task-related vocabulary.

- Teacher-teams meet weekly to revise unit maps and assessment and to discuss gaps in instruction between grades. Teacher teams meet at least ten times per year to look at student work and to gauge the effectiveness of reading, writing and mathematics instruction. As a result, instruction and assessments are realigned on an ongoing basis to best meet students’ needs and promote student ownership of learning and growth. For example, teacher teams meet to discuss item skills analysis and to identify ways to modify instruction to best meet the needs of all students. After reviewing the data, teachers identified that students were struggling with questions which required students to make inferences. Teachers returned to the ELA curriculum and designed a additional mini lessons, checklists and tasks to support students in acquiring this skill. Additional refinements and adaptations include additional modeling exercises, demos, visuals, opportunities for flexible grouping, and offering multi-option assessments, student choice and design of extensions.

- The school uses common assessments to determine individual student progress toward goals and adjust curricula and instruction. Teachers formally assess students and match students with unique tasks using Teachers College Assessment Pro, New York City pre and post assessments, New York State exam item analyses, unit tasks and writing responses (K-3), exit slips, conference notes (K-5), ELA and math benchmarks (Gr. 3-5) to measure literacy development.
Findings
School leaders and faculty ensure that curricula are aligned to Common Core Learning Standards and strategically integrate the instructional shifts. Rigorous habits and higher order skills are emphasized in curricula and academic tasks, and are embedded in a coherent way across grades and subjects.

Impact
The school’s use of engaging and rigorous curricula for all learners, including ELLs and students with disabilities, results in coherent instruction, where students demonstrate their thinking across grades and subject areas while promoting college and career readiness.

Supporting Evidence
- The school uses Teachers College Reading and Writing curriculum (TCRW) and it is coherent and cohesive across subjects and grades. TCRW reading levels are used to ensure curricular cohesion and student entry points across grades and subjects. For example, teachers create and note in units and lesson plans pre-selected activities including turn and talks, whole class and small group discussion, paired and shared reading, book clubs, partnership reading, and independent reading to increase student comprehension.

- All grade teams have created vertically aligned curriculum maps in grades K-8. Maps reflect grade level curricula, standards indicators, essential questions, related tasks, end of unit assessments, menus of complex texts with phonics and recognition skills, content knowledge, and challenging academic vocabulary. For example, Kindergarten to grade 8 English language arts maps indicate a balance of informational and literary texts, building reading endurance, use of “tricky words” and use of academic vocabulary. Math maps include complex, multistep word problems and fraction activities to increase mathematics fluency.

- The instructional shifts are strategically addressed in the curricula. Each grade level in K-8 requires a “step” of growth on the “staircase” to prepare students for the complexity of college and career ready texts. Students read the central, grade appropriate text of which instruction is centered and student entry points are created in lesson plans. Adapted tasks and scaffolds for ELLs and students with disabilities were seen in activities including visual cues, total physical response, teacher created graphic organizers and strategies to pre-teach vocabulary. Text-based answers figure predominantly in all curricula and tasks requiring evidentiary arguments in writing to assess textual comprehension were seen. For example, in grades 3-5, maps indicate emphasis on writing and specific writing tasks in science and social studies.
Quality Indicator: 4.2 Teacher teams and leadership development
Rating: Well Developed

Findings
The vast majority of teachers are engaged in inquiry-based structured professional collaborations that have strengthened teacher instructional capacity and promote the achievement of the school’s goals and the Common Core Learning Standards. Teacher teams systematically analyze assessment data and student work to adjust curricula and instruction.

Impact
Structured professional collaborations result in school-wide instructional coherence and increased student achievement for all learners. Teacher teamwork results in shared improvements in teacher practice and mastery of goals for groups of students.

Supporting Evidence
- The majority of teachers serve on teacher teams devoted to inquiry and the analysis of data that lead to adaptations and refinement to curricula to foster improvements in instructional practice. Teams meet at least three times per week to engage in six week inquiry cycles, adapt curricular resources including tasks and rubrics, and engage in student data analysis. For example, first grade teachers have engaged in a cycle of inquiry on Word Study, however were challenged by the task of how best to target individual levels of students and provide differentiated support. Among the six teams on grade 1, teachers departmentalized and divided the six groups of students according to their spelling inventory stage, designed a schedule for teachers and students to follow and created data tables to track student progress. Student progress in complex vocabulary usage and drills across first grade has shown improvement.

- Teacher teams meet with English as a second language (ESL) teachers on how best to provide ESL strategies in the classroom. ELL strategies including visuals, total physical response, explaining partner conversations post turn and talk, and engagement in meaningful conversation were seen across the majority of classrooms.

- The professional development team comprised of administration and teacher leaders meet weekly to discuss professional learning opportunities for staff. Professional learning topics include the Danielson Framework for Teaching, questioning, Webb’s Depth of Knowledge, and use of teacher team protocols for all teachers. Teachers are provided with related scholarly articles, educational texts, class coverages and other opportunities to inter-visit formally and informally each month.

- Teacher teams systematically analyze key elements of instruction and note implications and revise curricula to better meet the needs of all students including those with disabilities and ELLs. For example, grade 2 teacher teams noted that students scored in the lowest third on state exams also struggled in reading. Teams met, brainstormed, and designed tasks and mini lessons to meet subgroups including ELLs and students with disabilities’ needs. Teachers adapted units to include additional lessons on word study skills and vocabulary acquisition.