



**Department of
Education**
Carmen Fariña, Chancellor

Office of School Quality
Division of Teaching and Learning

Quality Review Report

2014-2015

**Mathematics, Science Research and Technology
Magnet High School**

High School Q492

**207-01 116th Avenue
Queens
NY 11411**

Principal: Jose Cruz

**Date of review: March 25, 2015
Lead Reviewer: Donald Conyers**

The School Context

Mathematics, Science Research and Technology Magnet is a high school with 416 students from grade 9 through grade 12. The school population comprises 73% Black, 11% Hispanic, 2% White, and 10% Asian students. The student body includes 6% English language learners and 4% special education students. Boys account for 61% of the students enrolled and girls account for 39%. The average attendance rate for the school year 2013-2014 was 82.9%.

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	Developing
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	Developing

Area of Celebration

Quality Indicator:

2.2 Assessment

Rating:

Proficient

Findings

Teachers across classrooms create and use assessments that are aligned to the school's curricula and the school uses common assessments to determine student progress toward goals.

Impact

Students know and understand actionable feedback on their student work. Teachers are better able to understand how all students are progressing toward their learning goals and are able to make decisions about next learning steps.

Supporting Evidence

- The teachers across all departments analyze student Regents results and formative assessments and determined that student writing is a major area of concern. The school responded by ensuring that all lessons across classrooms terminate with a written summary based upon the lesson's aim.
- The school, after planning curricular units across all subjects, decided to chunk instruction into 9 lessons and to create timely assessment opportunities to gauge student understanding. The teachers asked questions and asked students to respond to the aims daily. Additionally, the principal states the nine lessons are followed by an assessment to increase the teachers' chances of intervening and ensuring that students can attain mastery.
- The school offers quizzes, exams and midterms regularly to ensure that students are progressing in their learning. In a grade 9 math class, the teacher takes advantage of technology with the use of clickers that provide nearly instant results and the opportunity to address the area(s) of noted skill and/or content deficits. In this case, it was a Regent review question. The teacher routinely offers this type of question during the Do Now, as a pre-assessment to the lesson. The physical education midterm assessed instructional shifts by offering two different essay questions for consideration. After reading non-fiction articles, the students had to take a position and, using text-based evidence, to answer: Do you consider E-cigarettes dangerous or a way to help people quit smoking; or should marijuana be used as a medicinal option?
- During the student meeting, students brought work from various classes and talked about how well they completed the tasks or projects. The students were able to understand how to make their work better by using the rubrics that teachers distributed along with each assignment. Teachers reported that the students benefit from the written feedback provided and have shown gains on assessments when applying feedback. For example, a grade 9 biology science class teacher asked students to create outlines before responding and resultantly, students produced better responses.

Area of Focus

Quality Indicator:

1.2 Pedagogy

Rating:

Developing

Findings

Across classrooms, teaching practices are becoming aligned to the school's set of beliefs about how students learn best and the Danielson Framework for Teaching.

Impact

The level of rigor in lessons varies across classrooms and teaching practices limit meaningful student thinking and participation and subsequent high level work products and discussion.

Supporting Evidence

- The Principal stated the teachers in classrooms would be asking questions, leading discussions, students would engage in accountable talk and thoughtful discussion. Teachers will challenge students to think at higher levels. Conversely, in an Advanced Placement US History class, students were working in groups and reading a passage about the Roaring Twenties. They were expected to become experts on their respective area of focus, such as women's rights and transportation, and just determine whether they agreed with the name of the era and to cite examples from the text. The school believes that students learn best when they are engaged in high levels of student thinking and participation. However, this lesson limited the expected student participation and the student understanding of new knowledge.
- While a grade 9 Integrated Algebra class participated in a lesson designed to describe, create and use a box and whisker plot, the teacher asked and answered many of the questions posed. For example, he asked, "Why isn't there anything in the box?" He replied, that means there is no answer. As the teacher worked through each of the examples, he thought out loud and solved the examples, but did not allow students to ponder the examples, discuss options with classmates or to work in groups. This diminished the opportunity to think and participate at high levels and with independence.
- In a grade 9 Integrated Co-Teaching English class, the students worked from EngageNY module 2, Unit 3, lesson 8. The lesson called for students to examine a book review on the Bernard Madoff scandal. The lesson in its presented form asks students to do a close reading of the entire text as well as analyzing the development of the central idea of our fascination with crime. The lesson plan was detailed and specific about all students reading the entire book review in order to accomplish the goals of the lesson. Instead, the teacher assigned each group and all students a single paragraph to read and focus on the central idea of that paragraph. This diminished the intended level of student participation and the actual level of cognitive demand intended and expressed in the lesson plan.

Additional Findings

Quality Indicator:

1.1 Curriculum

Rating:

Proficient

Findings

School leaders and teachers ensure that Common Core aligned curricula integrate the instructional shifts, and intentionally plan and refine curricula, lessons and academic tasks using student work and data for diverse learners.

Impact

All students have access to cognitively engaging curricula and academic tasks and decisions to build coherence promote college and career readiness.

Supporting Evidence

- Each class lesson includes a critical thinking question that students must respond to in writing. This supports the school's focus on writing and reading of informational text. In a Global History social studies class, the lesson asked students studying Superpowers to read an article entitled, Super powers Face off to analyze causes and recognize effects of the Truman Doctrine and the Marshall plan. The writing assignment required students to develop an argument that develops the effects of the Truman Doctrine and the Marshall Plan on Communism.
- In a grade 11 English 6 class, the student assignment entailed reading "Booker T. Washington Delivers the 1895 Atlanta Compromise" speech to determine how Washington uses rhetoric to convey his point of view persuasively. This culminated in students writing a short response identifying a central idea in two paragraphs of the text. The lesson plan revealed that certain students would be provided with guided questions to support the close reading and annotation exercise. A vocabulary sheet was available to all students for greater access to the text.
- Curricula from a biology science lab address how caffeine affects the cell cycle. The lesson asks students to describe the events that occur in the cell cycle, and make predictions about natural phenomena occurring in the cell cycle. Indications in the lesson plan provide guided notes from the teacher to extend support to students in need. Students making more progress would complete a Chi-square analysis.
- In a US History class, the teacher developed a lesson focused on the 1920's, the Golden Twenties. The student activity requires students to read (in groups) five articles focused on consumerism, radio and movies, sports mania, transportation and woman's rights. Each group will analyze the accomplishments /developments of a character for each category and present to the entire class.
- To increase college and career readiness, the school offers three advanced placement courses in Biology, English and US History. The school also partners with Queens College where students take US History; York College for an introduction to Psychology course; SUNY College for Forestry and Environmental studies. Additionally, a cohort of 12 students participates in Pathways to Nursery program through Queensboro College.

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

The majority of teachers are engaged in professional collaborations connected to school goals and some collaborations analyze student work and data in order to focus on improved student learning.

Impact

Although most teachers analyze student assessment results, a minority of teachers are engaged in structured teacher team work that uses an inquiry approach and therefore, minimizes improved teacher practice and student progress toward goals across the school.

Supporting Evidence

- The principal indicated that “only the grade 9 team is involved in the structured teacher team work that involves inquiry work. Other teachers have chosen to do small group tutoring and common planning.”
- During common planning, teachers use the time to talk about students that have been experiencing difficulty and the teachers determine together how to handle the student concerns. At times, the teachers decide to invite the parents in for a discussion with all the teachers involved. At other times, the teachers speak about assessment results, but do not consistently benefit from the necessary professional development that could support the student challenges revealed in student work products.
- The grade 9 inquiry team observed used its chosen protocols to discuss the work of student S. The discussion focused on a piece of work completed by the students. The teachers looked at the work document from student S in science and discussed next steps for S, such as: receiving words with definitions in parentheses and encouraging student S to be more verbal in class. The team missed the opportunity to examine the work of student S across several disciplines, and therefore, could not gauge progress to understand the efficacy of instructional strategies.

Quality Indicator:	3.4 High Expectations	Rating:	Proficient
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Findings

The principal communicates high expectations to the entire staff that are informed by the Danielson Framework and provides training. Both school leaders and staff convey equally high expectations to families connected to a path to college and career readiness.

Impact

The principal has a system of accountability for the entire staff to achieve the high expectations for teaching and learning, and staff offer ongoing feedback to help families understand student progress.

Supporting Evidence

- Teachers examine student achievement after each marking period and create individual success plans for students that did not experience enough success, per grades and attendance. The plan identifies performance indicators or other areas where students struggled, notes on who was contacted and the outcomes, and finally the plans going forward. Teachers use Tuesday after school sessions to contact parents from meetings in addition to other communications like Skedula, progress reports and telephone calls.
- The principal communicates the message of student achievement and teacher improvement efforts in memoranda, during weekly professional learning sessions, and through the teacher observation process. He uses the observations, scholarship reports and established benchmarks to ensure that all members of the school community are making necessary progress that leads to greater student achievement.
- Guidance counselors have structured assignments that allow them to support students for two consecutive years. They meet with students and parents to discuss the expectations for college readiness. Guidance counselors participate in course selection and credit analysis to ensure that students are on track and remain on track. They meet with parents, especially grade 11/12 parents, to educate them about college visits, financial applications, deadlines and examinations.