

Quality Review Report 2012-2013

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

**High School Q492
201-01 116th Avenue
Queens
NY 11411**

Principal: Jose Cruz

**Dates of review: May 1-2, 2013
Lead Reviewer: Juan Mendez**

Part 1: The school context

Information about the school

Mathematics, Science Research and Technology Magnet High School comprises 419 students from grade 9 through 12. The school population consists of 79% Black, 12% Hispanic, 2% White, and 7% Asian students. The student body includes 5% English language learners and 11% special education students. Boys account for 60% of the students enrolled and girls account for 40%. The average attendance rate for the school year 2011 - 2012 was 84.9%.

Overall Evaluation

This school is proficient.

Part 2: Overview

What the school does well

- School leaders and teachers effectively align curricula to key standards and offer a range of learning experiences that engage students and support their learning. (1.1)
 - Teachers and students benefit from a curricula shaped around an assortment of classroom activities across all subject areas, to support content and skills development. These curricular aims stem from key standards prioritized in the Citywide Instructional Expectations (CIE). In particular, the school emphasizes Reading Standard 1, cite strong and through text based evidence, across all subjects. Across subject areas, curriculum maps help to infuse instructional units of study which provide students with detailed skills such as text based writing and problem solving strategies. Content area knowledge is sequentially arranged in formats aligned to the Common Core Learning Standards (CCLS), with a greater emphasis on Common Core alignment. The NYS Report Card reveals remarkable progress made by this school in closing the achievement gap in both English Language Arts (ELA) and mathematics from 2010-2011 to 2011-2012.
 - Teachers are conscientious to the needs of a diverse population and rely on student data to drive the planning process. Constant engagement in a cycle of planning and refinement of academic tasks allow teachers and teacher teams to set grade level targets that provide direction for curricula that is responsive to students' strengths and needs. For example, academic tasks in math showcase a range of activities that involve real world applications that appeal to diverse learning styles and deepen conceptual understanding. This strategy has led to improvement in the cognitive engagement of English language learners (ELLs) and student with disabilities (SWDs) as evidenced by a 17.7% increase among lowest third students earning more than ten credits.
- The school community appreciates the safe, respectful and orderly school environment for the personal and academic development of students. (1.4)
 - The school has boosted its approach to culture building by appealing to student interests, which has led to the procurement of music and visual arts teachers. These teachers enrich school values and beliefs by balancing culture with academic expectations. This approach has helped to cultivate a positive school environment that is not only inclusive but also orderly. Both students and adults interviewed state that the inclusion of more student centered activities helps to maintain a safe and respectful environment. The 2011-2012 Learning Environment Survey validates this with 86% of students and 85% of parents agreeing that they feel safe at school compared to 72% of students and 84% of parents the prior year.
 - A mentoring program provides social and academic supports to students across grade levels. This resource is coupled with efforts from social workers who specifically cater to SWDs to create more tailored supports, which often necessitate conversations to uncover social-emotional impediments to the educational process. All in all, adults strive to know

the students and create numerous opportunities for the whole child to flourish. "Respect for All" assemblies and open-door policies among guidance counselors showcase some of the social-emotional structures that place attention on key aspects of child growth and development. The increasing numbers of students who are enrolled in after-school programs provides tangible proof that students' self-confidence and desire to be an integral part of the school community has grown.

- Teachers use curricular-aligned assessments to track student performance and guide instructional decisions to inform planning to support student needs. (2.2)
 - Teachers strengthen their use of myriad assessments to promote student learning. Newer formative and summative assessments showcase the extent by which teachers align assessment practices to burgeoning courses. A Children First Network (CFN) literacy coach serves as a resource to share current curricular expertise and perpetuate the expansion of teachers' assessment repertoires. This includes more frequent use of rubrics aligned to Common Core Learning Standards (CCLS) to track student performance and provide feedback for next learning steps. A 29.2% increase in the number of students passing the Comprehensive English Regents Exam substantiates this school-wide effort to shape instruction through an assessment lens.
 - The use of common assessments aligned to CCLS guides the instructional planning process. Teachers meticulously use disaggregated Regents examination results and itemized analyses of Regents examination questions to establish learning goals. Design Your Own (DYO) Predictive Exams and benchmarks are also essential tools that help to gauge student progress in meeting academic goals. One student points out, "I have seen my classmates change because they have more feedback and support." The science department has amplified the passing percentage on the Earth Science Regents examination by 59.3%. Thus, across departments, teachers make instructional and curricular adjustments, track and support student learning with common data use.
- Teachers benefit from participating in professional collaborations to analyze student performance data and examine student work products, resulting in improved teacher practice and student achievement. (4.2)
 - Professional collaborations promote achievement by allowing time for all teachers to strengthen their understandings of Common Core Learning Standards. Goal-setting on inquiry teams is teacher-driven. One teacher notes, "Our literacy coach from the CFN has been amazing. He's re-focused our professional development by having us rethink assessment." Additional topics during professional collaborations involve calculated dissemination of Common Core pedagogical shifts to parents. This recalibration of shared inquiry has prompted the school to revamp its curricula leading to substantial improvement in both teaching practices and test design across subject areas.
 - School leaders create complimentary grade level teacher teams that consistently identify crucial student learning goals and rely on one another to achieve these goals. A 9th grade inquiry team was observed

conducting a thorough analysis of the Integrated Algebra I Regents Predictive Examination. Common discussions centered on emergent trends and the team concluded that an updated vocabulary list for mathematics students was necessary to reinforce critical terms. Ongoing adjustments to lesson plans and documentation of team goals are a product of this collaborative work.

What the school needs to improve

- Refine teaching practices to ensure teachers strategically provide multiple entry points so lessons challenge all students in their learning and result in high level work products. (1.2)
 - Teachers are focused on elevating the level of critical thinking in all classrooms. While several teachers immerse students in rigorous activities that lead to sophisticated research papers, some teachers in special education classes do not strategically deliver instruction that incorporates methodologies to optimize student learning, with special attention to the school's population of SWDs. For example, in social studies and mathematics classes with special education students the teacher strategically targeted the needs of the special education students by asking questions and providing a "wait time" before student responses. However, in other such classes, there was no "wait time" provided or other strategies to support this sub-group. Additionally, certain teacher dominated classrooms provided insufficient time for students to grapple with ideas or internalize new concepts. Consequently, the passing percentage on the Geometry and Global History and Geography Regents has decreased for SWDs.
 - Teachers create environments conducive to learning by displaying current student work and arranging desks to foster cooperative learning experiences. However, varying levels of student participation surfaced in the classrooms visited. Imprecise procedures directed to student groups was observed, which led to imbalanced student discussions and accountability. Thus, most student work reflects high levels of student thinking, yet student ownership of the work is emerging.
- Further develop structures to regularly evaluate and adjust the processes for increasing the coherence of CCLS practices across the school. (5.1)
 - School leaders have amassed a voluminous collection of instructional and assessment practices on a regular basis. While this showcases the amount of work being done to evaluate curricular practices, stakeholders are left with challenges in processing this information. As a result, the purposeful and expeditious management of vital information requires further development to support the learning needs of all students.
 - Adjustments in teacher team work and professional development practices aligned to student mastery of CCLS entail the use of binders to document an assortment of data. While this allows the school to track progress and identify next steps, access to this information is limited. Classroom teachers, who may need to access critical materials for classroom use, do not have teacher team work readily available in digital format. Although teachers often peruse the binders during their meetings,

the school has no systemic method in which to store the information. Consequently, the lack of transparency and accessibility impedes long-term plans for appropriate adjustments to the curriculum and instructional practices to support full implementation of the Common Core.

Part 3: School Quality Criteria 2012-2013

School Name: Mathematics, Science Research and Technology Magnet High School					UD	D	P	WD
Overall QR Score							X	
Instructional Core								
<i>To what extent does the school regularly...</i>					UD	D	P	WD
1.1 Design engaging, rigorous, and coherent curricula, including the arts, physical and health education, for a variety of learners and aligned to key State standards?							X	
1.2 Develop teacher pedagogy from a coherent set of beliefs about how students learn best that is informed by a research-based, common teaching framework and is aligned to curricula, engaging and meets the needs of all learners so that all students produce meaningful work products?							X	
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?							X	
School Culture								
<i>To what extent does the school ...</i>					UD	D	P	WD
1.4 Maintain a culture of mutual trust and positive attitudes that support the academic and personal growth of students and adults?							X	
3.4 Establish a culture for learning that communicates high expectations to staff, students and families, and provide supports to achieve them?							X	
Systems for Improvement								
<i>To what extent does the school ...</i>					UD	D	P	WD
1.3 Make strategic organizational decisions to support the school's instructional goals and meet students' learning needs as evidenced by meaningful student work products?							X	
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?							X	
4.1 Use the observation of classroom teaching with a research-based, common teaching framework and the analysis of learning outcomes to elevate school-wide instructional practices and implement strategies that promote professional growth and reflection, with a special focus on new teachers?							X	
4.2 Engage in structured professional collaborations on teams using an inquiry approach that promotes shared leadership and focuses on improved student learning?							X	
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?							X	
Quality Review Scoring Key								
UD	Underdeveloped	D	Developing	P	Proficient	WD	Well Developed	