



**Department of  
Education**  
*Carmen Fariña, Chancellor*

Office of School Quality  
Division of Teaching and Learning

# Quality Review Report

## 2015-2016

**Academy of Applied Mathematics and Technology**

**Middle School X343**

**345 Brook Avenue  
Bronx  
NY 10454**

**Principal: Vincent Gassetto**

**Date of review: May 24, 2016  
Lead Reviewer: Clarence Williams**

## The School Context

The Academy of Applied Mathematics and Technology is a middle school with 302 students from grade 6 through grade 8. In 2015-2016, the school population comprises 1% Asian, 26% Black, 73% Hispanic, and 1% White students. The student body includes 9% English Language Learners and 24% 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 92.1%.

## School Quality Criteria

<b>Instructional Core</b>		
<i>To what extent does the school...</i>	<b>Area of:</b>	<b>Rating:</b>
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	<b>Additional Findings</b>	<b>Proficient</b>
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 <i>Framework for Teaching</i> , aligned to the curricula, engaging, and meets the needs of all learners so that all students produce meaningful work products	<b>Focus</b>	<b>Proficient</b>
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	<b>Additional Findings</b>	<b>Well Developed</b>
<b>School Culture</b>		
<i>To what extent does the school...</i>	<b>Area of:</b>	<b>Rating:</b>
3.4 Establish a culture for learning that communicates high expectations to staff, students, and families, and provide supports to achieve those expectations	<b>Additional Findings</b>	<b>Proficient</b>
<b>Systems for Improvement</b>		
<i>To what extent does the school...</i>	<b>Area of:</b>	<b>Rating:</b>
4.2 Engage in structured professional collaborations on teams using an inquiry approach that promotes shared leadership and focuses on improved student learning	<b>Celebration</b>	<b>Well Developed</b>

## Area of Celebration

<b>Quality Indicator:</b>	<b>4.2 Teacher teams and leadership development</b>	<b>Rating:</b>	<b>Well Developed</b>
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### Findings

The vast majority of teachers are engaged in inquiry-based, structured professional collaborations. Teacher teams systematically analyze key elements of teacher work including classroom practice, assessment data, and student work for students they share or on whom they are focused.

### Impact

Teachers demonstrate school-wide instructional coherence and there is increased student achievement for all learners. Further, teacher practice and capacity has been strengthened and there is evidence of mastery of goals for groups of students.

### Supporting Evidence

- All subject and grade level teams are engaged in inquiry-based collaborations. A humanities team presented minutes from their inquiry team meeting that evidenced using a data analysis protocol to look at student work. Each grade's work was looked at in terms of the aligned-standards in which students struggled. For example, grades 6 through 8 struggled with reading informational text. The team's next step included looking back at questions related to these standards, have students analyze why they answered the questions wrong, look at prerequisites standards, and group students based on their performance in the standards. The team documented that they would apply similar strategies across all grades.
- The science department documented a living environment data analysis tool to look at student work. The first step was to analyze student work based on the standard: 4.LE.1, grade 4 living environment. A common misconception was question 10, "What captures energy from sunlight to make food?" This was identified as mitochondria instead of chloroplast. In question 12, cell membrane was included as an answer for being present in animals but not plants. The next step was to brainstorm the actions that the department can take to address these errors and misconceptions. Steps included review of lessons focusing on misconceptions, review Do Nows, and use a throwback sheet for review. The follow-ups included creating a review lesson focusing on organelle and stem function and animal vs. plant cell. Final steps included a reassessment, looking at the next learning target, and incorporating checking for understanding in the lessons.
- A grade 6 to 8 math team presented minutes comprised of a facilitator, a recorder, a timekeeper, and presenters. The meeting agenda consisted of what was the best moment you had with a student this morning, the use of the intervention analysis protocol, analysis of student work protocol, share out, and next steps. Questions were, "Was the intervention successful? What are the next steps?" Analysis included what students know and do not know, common errors, and next steps for individual students and groups. An example of a share included a teacher of students with disabilities in a self-contained class of 12:1, showing her students' improvement in algebraic thinking and responses to a query about variables.

## Area of Focus

<b>Quality Indicator:</b>	<b>1.2 Pedagogy</b>	<b>Rating:</b>	<b>Proficient</b>
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### Findings

Across classrooms, teaching practices are aligned to the curricula, reflect an articulated set of beliefs about how students learn best that is informed by the Danielson *Framework for Teaching* and the instructional shifts, and provide multiple entry points.

### Impact

Learners, including, English Language Learners (ELLs) and students with disabilities, are engaged in appropriately challenging tasks and demonstrate higher-order thinking skills and produce meaningful work, however high-quality supports and extensions were not consistent in all classrooms visited.

### Supporting Evidence

- Meaningful work products were seen in some classes; however, this was not evident in all classes visited. In a grade 6, 12:1 students with disabilities class, the teacher incorporated the instructional shifts of knowledge in the disciplines into the lesson. The task was, “How did the industrial revolution change the United States?”, and the question was, “Which sentence best supports the central idea that the industrial revolution brought many changes to American life?” Students were observed responding to a worksheet that required them to cite textual evidence from a reading passage. One student selected the quote, “The industrial revolution was a change in the way goods were made” He stated, “I chose this because it’s saying that machines were built to make clothes, shoes and other goods.”
- In a grade 7 science class, the class objective was to “explain the type of weather that cold and warm fronts bring and forecast weather by interpreting the symbols below on a weather map.” The teacher incorporated scaffolds in the lesson by working with a group of students that had not yet mastered weather fronts. The teacher used a reading review of the types of weather each front brings. Instructional shifts were also evident by having students “assess the validity of the statement using evidence from the text to prove their point. In the same class, students were observed writing a forecast based on the text. One student wrote, “Today in St. Louis we are receiving clear skies as a high pressure system is effecting the area.” This was based on text with weather information that the student had to read to create the forecast. However In a grade 6 humanities class, the aim was to “determine the gist of Steve Jobs’ speech and make connections to *Bud not Buddy*.” Groups worked with Venn diagrams to show the differences. There was no evidence of high quality supports to assist students who had difficulty.
- The effective use of scaffolds was used in some classes visited but not consistently across all grades. In a grade 8 science class, the teacher used scaffolds, including vocabulary words for low- and high-level students. Low-level students were provided simple definitions with images such as volume and mass. Student with disabilities were provided scaffolds such as referencing prior knowledge, visuals, and structured notes that include teacher-centered fill in the blanks worksheets. The teacher also used stop-and-jots to allow students to put their thoughts on paper. Students were instructed to make inferences when the teacher asked the question during whole-group instruction: “What can you infer about the relationship between the density of an object and its ability to float in water?” Students went in a turn and talked to discuss. One student stated, “I think it depends on how heavy it is.”

## Additional Findings

<b>Quality Indicator:</b>	<b>1.1 Curriculum</b>	<b>Rating:</b>	<b>Proficient</b>
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### Findings

Curricula and academic tasks consistently emphasize rigorous habits and higher-order skills across grades and subjects for ELLs and students with disabilities, and are planned and refined using student work and data.

### Impact

All subject areas have an engaging, rigorous, and coherent curricula, accessible for a variety of learners, and aligned to Common Core Learning Standards and/or content standards

### Supporting Evidence

- The grade 7 math Scope and Sequence has been refined based on student work and data. The scope and sequence document shows that the unit was originally written for one to 22 days to cover integers and rational numbers. The school extended it to 24 days. In addition, ratios, rates, percentages, and proportions were extended an additional seven days based on student data on benchmark assessments. Based on the New York State math exam, the unit on two-dimensional geometry was decreased by one day based on student performance, which allowed more time for other areas of deficiency.
- A grade 8 unit on humanities demonstrates adjustments for students with disabilities. For example, the lesson topic is to introduce a theme: “What is the omnivore’s dilemma?” The aim is “What makes a dilemma?” Materials include a concept chart for dilemma, answers to text-dependent questions, and an exit ticket. Adjustments for students with disabilities include visual representations of meals, access to online dictionaries, audio recordings of the text, and scaffolded worksheets. Lessons from the unit also allow some students to write a narrative or do an informational essay.
- A grade 6 humanities unit demonstrates high-order thinking skills. Webb’s *Depth of Knowledge* Level 4, extended thinking, is evident as the unit states that “Students will determine the meaning of words and phrases as they are used in a text, including figurative and connotative meanings; analyze the impact of a specific word choice on meaning and tone.” Further evidence of higher-order thinking skills are written in the unit using strategic thinking so that “Students will be able to write arguments to support claims with clear reasons and relevant evidence.”
- A grade 6 math lesson plan demonstrated adjustments for students with disabilities and English Language Learners. Students with disabilities will be provided a reference sheet with key math words to assist with comprehension and vocabulary. English Language Learners will use annotating worksheets to help with comprehension and identify key words related to the text.

<b>Quality Indicator:</b>	<b>2.2 Assessment</b>	<b>Rating:</b>	<b>Well Developed</b>
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### Findings

Across the vast majority of classrooms, teachers use or create assessments, and rubrics, that are aligned with the school's curricula and offer a clear portrait of student mastery. The school uses common assessments to create a clear picture of student progress toward goals across grades and subjects, track progress, and adjust curricular and instructional decisions.

### Impact

Assessments provide actionable and meaningful feedback to students and teachers regarding student achievement. All students, including English Language Learners and students with disabilities demonstrate increased mastery.

### Supporting Evidence

- Rubrics to assess student performance are evident in all classrooms visited. A four point writing rubric was used in an English Language Arts writing class. The student received a four for mastery in understanding and interpretation of the task, a three for development, a four for organization, and two threes for style and conventions. The teacher wrote for a glow: "You gave some relative examples from the text related to the theme you determined for the myth." The grow stated, "You could have provided more elaboration with real world connections." Another example of a rubric used to assess student comprehension was seen in a language arts writing rubric. The student received all fours, exemplary, for content analysis, command of evidence, coherence/organization/style, and control of conventions. The teacher's comments were: Excellent organization, use of evidence, sophisticated and an insightful analysis." This was impactful as students stated that the rubrics play a significant part in the development of their writing and comprehension. All students interviewed identified and described the rubrics used in the classrooms observed
- Teacher feedback is evident in all classrooms visited. This is impactful because students are made aware of next steps towards progress. Teachers use a critiquing hypothesis with a strength section and limitation section to provide feedback for students. The rubric has four levels, ranging from no evidence, emerging, developing, proficient, to advanced. An example was seen posted in an English Language Arts classroom. The teacher stated in the strength section: "All strengths identified with data, your revision included variables, relationship evidence from the text." The limitation section stated, "Continue to use data from both the text and table in upcoming critiques." The student received a Level 4, advanced. An additional example was seen with a student receiving a Level 3, proficient. The teacher commented: "Great job using evidence from the text and data table."

Teachers use student performance including assessments to adjust curricula. Evidence was seen in a grade 8 English class. Teachers provided evidence of moving students towards mastery, using on a comparative class statistic sheet. The document shows the grade 8 English Language Arts teachers' September baseline assessments in comparison to the March benchmark assessments. A 12:1 class of students with disabilities showed a 7% increase from baseline to benchmark. A general education class showed a 10% increase between both assessments demonstrating 60% growth as of March. Additionally a math algebra practice Regents test demonstrated on March 4 that nine out of 29 students passed. On May 20, 24 out of 29 passed the practice test.

<b>Quality Indicator:</b>	<b>3.4 High Expectations</b>	<b>Rating:</b>	<b>Proficient</b>
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**Findings**

School leaders consistently communicate high to the entire staff. School leaders and staff consistently communicate expectations that are connected to a path to college and career readiness.

**Impact**

School leaders provide training and have a system of accountability for expectations. They offer ongoing feedback to help families understand their children’s progress toward those expectations

**Supporting Evidence**

- School leaders distribute through google drive the staff manual. Every staff member has to sign a receipt that states, “I have received an electronic copy of the staff manual for the 2015-2016 school year.” Expectations and accountability include English Language Learners areas of focus, students with disabilities strengths and weaknesses, staff attendance policy, and the professional development schedule. The manual also states that all staff members must read the Chancellor’s regulations.
- The principal regularly distributes memorandums to staff to reinforce expectations. A December memorandum included reminders such as “Use planners at the end of each period to help students stay organized, all letters to parents must be translated, and it is the teacher’s responsibility to establish clear and consistent procedures.” The document also includes upcoming events such as Instructor Led Training (ILT)
- Danielson *Framework for Teaching* is evident in the annual professional performance review evaluation form (APPR). The principal wrote to a teacher under the component of demonstrating knowledge of content and pedagogy, “Even though students were grouped according to the learning target, all students were asked to perform the same task. Identify the misconceptions or errors from the lower groups and make modifications that will specifically address those needs.” An additional example was shown in another evaluation. Under Growing and Developing Professionally, the principal stated, “The teacher takes an active leadership role in professional organizations in order to contribute to the profession.”
- Teachers communicate expectations for college and career readiness through advisory. An advisory lesson on college and career readiness demonstrated the difference between jobs occupations and careers. The lesson also discussed matching education level to jobs. An exit ticket question stated, “What do you think you need to do to get the job, occupation, or career that you want as an adult?” Teachers and leadership support college and career readiness, and communicate with parents by hosting a trip to Fordham University. During the trip teachers stated that students had an opportunity to discuss college requirements with university staff and tour the school.