



# **The New York City Department of Education**



# **Quality Review Report**

**Academy of Applied Mathematics and Technology**

**Middle School 343**

**345 Brook Avenue  
Bronx  
NY 10454**

**Principal: Rose-marie Mills**

**Dates of review: March 22 – 23, 2007**

**Reviewer: Mary Ayala**

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## Part 1: The school context

### Information about the school

The Academy of Applied Mathematics and Technology, Middle School 343, is in the South Bronx and is just completing its first official year. Previously, the Academy was a program of Middle School 224. The school was designed specifically to improve student performance in mathematics and to prepare them for success in the use of technology.

The school currently serves 219 students in grades 6 and 7 and is projected to grow to 309 students in the coming school year. The student population roughly reflects the overall demographic of the Bronx with 61% Hispanic and 38% Black students. Special education students account for 26% of the student body while English language learners represent 7%. Those students who are Title 1 eligible constitute 83% of the student population which is slightly lower than similar schools but significantly higher than City schools as a whole. For the first six months of this school year, the average daily student attendance was 91.4%, slightly higher than similar schools but almost identical to City schools in general.

This school is an Empowerment school. Empowerment schools have more flexibility to make key decisions and control the resources for their school community. Empowerment schools are free to develop or purchase professional development services, choose which schools to affiliate with, and benefit from reduced reporting and paperwork requirements.

## Part 2: Overview

### What the school does well

- The principal sets and models high expectations for staff and students to secure improved student outcomes.
- The principal makes decisions about staffing, budgeting, and scheduling based on their positive impact on student achievement.
- The leadership team, coaches and consultants help teachers to assess students, design the curriculum and implement best practices in order to accelerate learning.
- A culture of trust and collaboration is used to good advantage on behalf of improving student performance.
- A variety of data is used to make decisions about what is taught and which methodologies best support improved student outcomes.
- A safe and secure environment makes it possible for the school to maintain a sharp focus on academic achievement.
- Parents are actively pursued as partners in improving their children's achievement education.
- After-school programs and partnerships are used strategically to support improved academic performance.
- Technology is used as both a "hook" and a tool to secure improved student outcomes.

### What the school needs to improve

- Use information from data to develop demanding, objectively measurable goals for both short- and long-term improvements.
- Once measurable goals are in place, use data collection and analysis to monitor carefully their progress to ensure that agile adjustments can be made to improve student outcomes.
- Continue efforts to look at student work in order to define and achieve academic rigor across the curriculum.
- Develop internal assessments to provide timely information that can be used to adjust the curriculum and planning to secure improved student outcomes.
- Improve the use of differentiation so that students can master the curriculum and demonstrate competence in a variety of ways.

## Part 3: Main findings

### Overall Evaluation

#### **This is a proficient school.**

Although this school has yet to complete its first full year as the Academy of Applied Mathematics and Technology, it has put a number of practices in place in order to secure a quality educational experience for its students. The school's culture is one of positive regard and high expectations for all and one that supports a variety of efforts to address the academic, social, and emotional needs of students.

Staff use a variety of data sources including standardized test results, observations and conferencing to understand student needs and achievement. This information is effectively used to make decisions about what is taught and what changes might best support school improvement efforts. However, it does not use the practice of looking at student work with enough depth to define rigor across the curriculum. When planning for school development, the school does not use data sufficiently well to develop objectively measurable goals to monitor short- and long-term success.

The use of technology is nicely embedded in the work of this school. Students routinely use technology for research and keep work in a digital portfolio. Staff use a variety of software programs to supplement the curriculum and to monitor student progress. This school is currently developing a research project to design its own periodic assessment materials. Parents appreciate the well-established routines of the school and, most importantly, the positive student attitudes towards learning.

### How well the school meets New York City's evaluation criteria

**Quality Statement 1 – Gather Data: School leaders and faculty consistently gather data and use it to understand what each student knows and is able to do and to monitor student progress over time.**

#### **This area of the school's work is proficient.**

The school does a good job collecting data to understand how well each student is achieving. The principal maintains a school-wide assessment binder with a considerable range of information that is regularly updated and discussed. This information includes standardized test results, a variety of interim assessments, progress reports, suspension data, student surveys, and report cards. Teachers maintain classroom binders on their students that contain similar pieces of information, along with conferencing notes, thereby providing regularly updated information about student progress. Staff work with consultants and coaches to analyze the data and plan for instruction for individual students, classes, and grades. Teachers have used some commercial assessments for English language arts and mathematics but have identified alignment problems. As a result, the school is planning to develop some of its own assessments to ensure more quality data collection and feedback on which to base instructional planning.

The school is effective in looking at data to understand the progress of its students by ethnic group, gender, language, and ability. Performance data is presented in a variety of formats including lists, charts, and graphs so that attention can be drawn to areas of concern. This information is regularly discussed by the principal, assistant principal,

coaches, consultants, and teachers in cabinet and grade level meetings. As a result, changes are proposed that are intended to accelerate student learning.

As the school is only now completing its first year, it does not yet have data that can be used to analyze its work over time or in relation to the work of similar and other City schools.

**Quality Statement 2 – Plan and Set Goals: School leaders and faculty consistently use available data to understand each student’s next learning step. Through collaborative planning and student and parent engagement, they set high goals for improving teaching practice and accelerating each student’s learning.**

**This area of the school’s work is proficient.**

The school uses a wide range of information about students to set goals for improving teaching and learning across the curriculum. Teachers are expected to analyze data about their students and then predict and plan for academic progress. Staff collaborate to look at data trends, identify successful classroom lessons and then share best practices to improve outcomes for all students. The principal regularly discusses student progress reports and report card grades with teachers in order to begin the process of defining academic rigor as precisely as possible.

The school has a number of broad goals that focus on the work of the school as a whole. They include meeting the academic, social, and emotional needs of students, creating a safe learning environment, preparing students for high school and using technology to the best possible advantage. However, when planning for continuous development, the school does not include objective measures of success or timelines so that progress towards these goals is not monitored sufficiently.

The school pays good attention to those students who are in greatest need of improvement. Effective support, aimed at accelerating progress, is provided through extra time in the daily schedule and with additional time after school that can extend up to 6:00 pm on some days. If these interventions prove inadequate, staff work together to consider the need for special education services.

The school does an excellent job of conveying high expectations to students, parents and caregivers. When parents come in to pick up report cards, they are also presented with an informational folder. An orientation at the beginning of the year, along with newsletters and monthly calendars, help parents and caregivers understand and support the school’s work of improving academic achievement. Students noted that ‘teachers push us to do our best’

All members of this school community work well together to improve student performance. Information from needs surveys is collected from students, parents, and teachers and is used to develop goals and plans. The parent/teacher association provides workshops to help parents and caregivers support students while community partners supply a variety of resources and incentives.

**Quality Statement 3 – Align Instruction: The school aligns its instructional activity and resources, and student engagement around its focused plans for accelerating learning for each student.**

**This area of the school’s work is proficient.**

The curriculum planning team has been effective in identifying materials that both support the mandated curriculum in English language arts and mathematics and provide helpful assessment data to measure student progress. The school has purchased some commercial assessments and software programs to provide other sources of data about students progress. Materials that prove effective are listed in curriculum maps so that all teachers are aware of their availability and usefulness.

The leadership team and teachers hold themselves mutually accountable for improving instruction and student outcomes. Frequent conversations about student achievements occur among teachers and between teachers and the leadership team. Teachers work well with coaches and consultants, for example, to define and refine the balanced literacy curriculum based on needs revealed by student data. However, due to a superficial teacher understanding of differentiation, few examples of differentiation were observed in classroom visits, resulting in some students not being able to demonstrate all their competencies.

Improving the progress of individual students and groups of students is made possible through the school’s thoughtful use of its key resources. For example, the principal has made strategic decisions about what staff to hire based on needs identified by student data. In addition, she has designed the daily schedule so that students can receive additional academic support and teachers can meet to reflect on and plan their work. Teachers appreciate the principal’s willingness to purchase necessary materials. As they noted, ‘We are well-resourced.’

As a result of good planning and good teaching, the school does well in motivating students to learn. Students are frequently able to apply what they are learning to real life situations and talk about being able to make sense of previously difficult coursework. Teachers provide a variety of engaging learning activities. As one parent noted, ‘My child has enthusiasm for her classes here.’ Students are motivated to learn; because of this, they enjoy coming to school and the attendance rate is above 90%. The school is successful in monitoring student attendance in order to secure this rate and a variety of school staff are responsible for daily calls and home visits. The attendance system is computerized. Students appreciate a number of incentives that reward good attendance.

The school has built a culture of respect where students can seek out help for either academics or other needs that are interfering with their academic progress. Students feel that staff are easy to talk to and that a variety of after school clubs provide an outlet for social and emotional needs.

**Quality Statement 4 - Build and Align Capacity: The development of instructional leadership, staff, and capacity are aligned around the school’s collaboratively established goals for accelerating the learning of each student.**

**This area of the school’s work is proficient.**

This school is effective in hiring and training staff to work to accelerate achievement for all students. Teachers are selected based on their ability to relate positively to students in an urban setting and on their willingness to learn. As they are inducted into the school, they

receive professional development in the analysis of data and the use of data to design and adjust the curriculum.

Additional professional development is provided based upon needs identified by teacher surveys and information from periodic assessments, for example, the need to deepen and refine their understanding of differentiation so that students can master the curriculum and demonstrate competence in a variety of ways.

The school is effective in making it possible for staff to learn from each other. The principal observes classrooms frequently and provides constructive, developmental feedback. A running record of this feedback is used to discern any patterns that may need addressing. Teachers meet in teams using data well to plan for improvement. As one teacher noted, 'As the culture has become safer, we've become more collaborative.'

The principal is well respected and is credited with 'turning the school around' in less than six months. She has been able to effect changes by enlisting staff, students, parents and caregivers as partners for school improvement. The school runs smoothly. Policies and procedures are well defined, communicated effectively in a variety of ways, and respectfully monitored for compliance.

The after school programs are well aligned with stated academic and recreational goals, with over 60% of students participating. The school's curriculum is aligned with the extended day and the after-school program so there is no repetition of subject matter, demonstrating positive cooperation with the school's outside provider.

**Quality Statement 5 - Monitor and Revise: The school has built-in structures for evaluating each student's progress throughout the year, recognizing weaknesses in its improvement plans and teaching practices, and flexibly adapting plans and practices to meet its goals for accelerated learning.**

**This area of the school's work is proficient.**

The school has developed a useful calendar of assessments that aligns with standardized testing and the Department of Education's marking periods. Interim assessments, progress reports, and report cards are used to evaluate student progress throughout the year. As a result, decisions can be made about how best to adjust the curriculum and classroom practices in order to accelerate student learning.

The school has a number of teams to plan for school improvement and to develop plans the Comprehensive Education Plan. At present, these plans do not contain frequent interim goals or diagnostic assessments to monitor the impact of the plan in objectively measurable ways. However, information from interim assessments and principal observations is used well to determine what 'next steps' need to occur in order to reach stated curriculum goals. In addition, at the midpoint of each marking period, student progress is reviewed on an individual and classroom basis. This information is shared in grade level and content area meetings so that teachers can respond quickly and thoughtfully. As a result, the curriculum is always 'under construction' as teachers refine lessons to accelerate learning and teachers who may be experiencing difficulties are assigned additional support.

## Part 4: School Quality Criteria Summary

<b>SCHOOL NAME: Academy of Applied Mathematics and Technology (MS 343)</b>	∅	✓	+
<b>Quality Score</b>		X	
<b>Quality Statement 1 – Gather Data: School leaders and faculty consistently gather data and use it to understand what each student knows and is able to do and to monitor student progress over time.</b>	∅	✓	+
1.1 The school uses available data and generates its own data to provide an objective, constantly updated understanding of the performance and progress of: <ul style="list-style-type: none"> <li>• each student, classroom, grade level,</li> </ul>			X
1.2 The school uses available data and generates its own data to provide an objective, constantly updated understanding of the performance and progress of: <ul style="list-style-type: none"> <li>• ethnic groups, English language learners, special education students*</li> </ul>		X	
1.3 The school uses available data and generates its own data to provide an objective, constantly updated understanding of the performance and progress of: <ul style="list-style-type: none"> <li>• all other categories of interest to the school*</li> </ul>		X	
1.4 Performance and progress are measured based on comparisons with similar schools, with the school's own past performance, and among students, classrooms, grade levels, academic subject areas, ethnic groups, and other groupings of interest within the school.	X		
<b>Overall score for Quality Statement 1</b>		X	

\* These criteria are partially aspirational as of now because schools do not have routine access to all of this data. The NYC DOE plans to provide schools with enhanced access to the necessary data in 2007.

<b>Quality Statement 2 – Plan and Set Goals: School leaders and faculty consistently use available data to understand each student's next learning step. Through collaborative planning and student and parent engagement, they set high goals for improving teaching practice and accelerating each student's learning.</b>	∅	✓	+
2.1 Using data, school leaders and faculty engage in a collaborative process to set demanding, objectively measurable goals for immediate and long-range improvement, and to develop plans and timeframes for reaching those goals.		X	
2.2 Goals and plans focus on the school as a whole and on each student, classroom, grade level, academic subject, and group of students whose performance or progress has been identified by the school as a particular focus area.		X	
2.3 Particular attention is given to improving the performance and progress of students in greatest need of improvement.		X	
2.4 High expectations are conveyed to students and parents/caregivers. Students and their parents/caregivers are regularly invited to provide information about each student's performance and how to improve. This information is central to setting challenging goals and developing, evaluating, and revising plans.			X
2.5 Goals and plans for improving student performance and progress drive the activity of all members of the school community: leaders, staff, students, parents, and other partners.		X	
<b>Overall score for Quality Statement 2</b>		X	

<b>Quality Statement 3 – Align Instruction: The school aligns its instructional activity, resources, and student engagement around its focused plans for accelerating learning for each student.</b>	∅	✓	+
3.1 The school selects the curriculum based on how well it aligns with or implements the mandated curriculum and on the curriculum's capacity to generate meaningful interim data about progress towards goals and to support the school's high expectations and improvement plans.		X	
3.2 Teachers are accountable for improving instruction and student outcomes. They plan and differentiate their instruction based on the needs revealed by student data and by the focused plan the school has developed to improve each student's and group of students' outcomes.	X		
3.3 Budgeting decisions are driven by the needs revealed by student data and by the focused plan the school has developed to improve each student's and group of students' outcomes.		X	
3.4 Staffing decisions are driven by the needs revealed by student data and by the focused plan the school has developed to improve each student's and group of students' outcomes.		X	
3.5 Scheduling decisions about the use of teacher and student time are guided by the needs that emerge from examining student data and by the focused plan the school develops to improve student outcomes.		X	
3.6 Instructional programs actively engage students.			X
3.7 Staff know and respect students and respond to their academic needs, as well as their personal needs that affect academic performance. Each student knows and trusts an adult on the staff who is concerned about him or her.		X	
3.8 Student attendance and engagement are high priorities. High rates and patterns of absences trigger immediate intervention.		X	
<b>Overall score for Quality Statement 3</b>		X	
<b>Quality Statement 4 – Build and Align Capacity: The development of instructional leadership, staff, and capacity are aligned around the school's collaboratively established goals for accelerating the learning of each student.</b>	∅	✓	+
4.1 Leaders, faculty, and staff are selected based on their high expectations for student performance and progress and based on their commitment and capacity to use data, compare outcomes within and across classrooms and schools and develop and revise plans and methods to improve performance and progress.		X	
4.2 Professional development decisions are driven by the needs revealed by student data and by the focused plan the school has developed to improve each student's and group of students' outcomes. Professional development is designed to help leaders, faculty, and staff use data, self- and peer-assessments, and collaboration with peers to achieve goals for improved school and student outcomes. Professional development and self- and peer-evaluation are aligned and overlap.		X	
4.3 The principal frequently observes classroom teaching and has a considered strategy for improving the quality of each teacher's instruction. Teachers frequently observe and support each other's classroom instruction with the goal of improving student outcomes.		X	
4.4 Planning, evaluation of results, and revision of plans takes place in teams. Leaders and faculty inform each other of their goals and results, candidly evaluate themselves and each other, and use what is learned to drive improvement.		X	
4.5 The principal is respected and has capacity to effect change.			X
4.6 The school runs smoothly. Procedures are clear, communicated to all, and are generally followed.			X
4.7 The school aligns youth development and support services around stated academic goals. Partnerships with outside bodies are routinely used to achieve academic goals.		X	
<b>Overall score for Quality Statement 4</b>		X	
<b>Quality Statement 5 – Monitor and Revise: The school has built-in structures for evaluating each student's progress throughout the year, recognizing weaknesses in its improvement plans and teaching practices, and flexibly adapting plans and practices to meet its goals for accelerating learning.</b>	∅	✓	+
5.1 All school plans and other interventions include frequent interim goals and diagnostic assessments of progress designed to reveal in objectively measurable ways whether the plan is being effectively implemented and reaching stated goals.		X	
5.2 Comparisons of student progress within and across classrooms and schools are used in making interim diagnostic assessments and measuring the progress of plans and interventions.		X	
5.3 Information generated by periodic assessments and diagnostic measures of progress and comparisons is used to revise plans immediately in order to reach stated goals. Interim and final goals are modified when data objectively demonstrate that revision is required.		X	
5.4 Each plan's interim and final outcomes drive successive phases of goal setting and improvement planning, and each successive phase is characterized by agile and flexible realignment of practices and resources to improve student academic outcomes.		X	
<b>Overall score for Quality Statement 5</b>		X	