



**Department of
Education**

Joel I. Klein, Chancellor

**Quality Review Report
Office of Accountability
2008-2009**

Quality Review Report 2008-2009

**Archimedes Academy for Math, Science and
Technology Applications**

**Middle School 367
456 White Plains Road
Bronx
NY 10473**

Principal: Miriam A. Lazar

**Dates of review: March 3- 4, 2009
Lead Reviewer: Audra M. Watson**

Part 1: The school context

Information about the school

Archimedes Academy for Math, Science and Technology Applications is a middle school with 216 students from grade 6 to grade 7. At capacity, the school will take students from grades 6 through grade 12. Currently, the school population comprises 36% Black, 61% Hispanic, and 3% Asian students. The student body includes 8% English language learners and 22% special education students. Boys account for 55% of the students enrolled and girls account for 45%. The average attendance rate for the school year 2007-2008 was 92.3%. The school is in receipt of Title 1 funding with 68.2% eligibility.

Overall Evaluation

This school is proficient.

This is a caring community in which students feel well-known by their teachers and parents feel that teachers are committed to the academic and personal development of their children. Teachers, parents, and students are aware of the school's goals, vision, and mission and work actively and continuously to achieve them. School staff and administrators function collaboratively to support youth development. As such, numerous strategies for ensuring the personal development of students are in place to support students; including the careful recruitment of personnel to focus on the student personal development. In the past year, the school has also established highly structured systems for also collecting data on student achievement and progress. This information is carefully gathered and but not rigorously analyzed for gender-based patterns and trends for high achievers.

The school has purposefully identified goals needed to support the achievement of students and school staff actively seeks professional development experiences to support their teaching. The principal makes this possible by providing school-based professional development based on data trends, teacher requests, and by affording teachers the opportunities to participate in development experiences elsewhere.

Building on the fact that 80% of the school community has computers in the home, the school has used Snap Grades to facilitate communication of important information to families and students. Parents, teachers, and students note that constant access to information about student progress has provided the school with an effective means of communication about learning. The system provides the ability for all stakeholders to consistently monitor and keep track of student assignments and includes teacher blogs. In line with the school's data gathering efforts, the frequency of use of the system is monitored and alternate means of parent contact are provided.

The school has identified the right priorities for improvement and staff has clear understandings of the progress of students. Nonetheless, specific interim benchmarks are not in place to ensure that students are on the path to meeting articulated goals. Also, despite careful focus on students who are furthest behind, the curriculum is not consistently challenging for high achieving students. Differentiation in day-to-day instruction is in its early stages and is not yet firmly established across the school. In an attempt to further support teachers with differentiation, the school has recently contracted with Renzulli to learn more about each student's learning style.

Part 2: Overview

What the school does well

- The school does a good job of collecting and analyzing a range of assessment data, supported by comprehensive technology systems, so that there is a clear picture of individual student achievement.
- Constant access to Snap Grades enables students and families to consistently monitor and keep track of student assignments and progress.
- The school has invested in additional human resources and organizational support structures to effectively build students' personal growth and study skills.
- The principals' vision is so clear that it is embraced and articulated by teachers, students, and families.
- Teachers are reflective practitioners committed to developing their instructional practices for the benefit of student achievement and progress.
- There is a culture of mutual trust and respect so that most students have positive attitudes towards learning.

What the school needs to improve

- Analyze data more rigorously to ensure that the progress of girls, boys, and higher achievers is tracked more effectively to identify trends in performance.
- Ensure the curriculum is always consistently challenging for higher achievers.
- Consistently differentiate instruction in class to meet the needs of all performance levels.
- Embed the schools' data systems for monitoring student progress so that teachers have a clear picture of whether students are on track to make at least a year of progress.

Part 3: Main Findings

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

Quality Statement 1 – Gather Data: School leaders and faculty consistently gather, generate and analyze information on student learning outcomes and use it to understand what each student knows and can do and to monitor the student's progress over time.

This area of the school's work is proficient.

Over the past year, the school has invested heavily in a range of technology systems to capture data about student learning. This investment has yielded a clear picture of achievement for individual students. Among these, is the fairly consistent and broad use of the Qwizdom system across grades and most subjects. Teachers gather real-time classroom assessment information, from instantaneous print-outs that show both individual and class responses and then use the information to plan subsequent instructional steps. The school administrator expects each teacher to keep a data binder providing a snapshot of each student's progress. The use of rubrics, across subjects, have helped the school to gather more consistent information about student progress and enables students to determine their next steps for moving forward.

Members of the school community actively engage in the collection and analysis of data so they can monitor trends in student performance. While the school disaggregated data by gender and ethnicity, it does not rigorously analyze all of its data to ensure that the progress of girls, boys, and higher achievers is tracked more effectively. Despite much attention to the decline in math scores, differences in math performance among girls at the school has not been attended to or objectively explained.

Daily access to student achievement and progress information is available to parents and students through more frequent parent meetings and through Snap Grades technology. Moreover, the collection and analysis of non-academic data by the pupil intervention team is firmly in place to monitor attendance figures and behavior and to identify students needing additional support. The consistent and effective use of this data helps the team to determine trends and areas of need and to be particularly good at addressing the developmental needs of students.

Quality Statement 2 – Plan and Set Goals: School leaders and faculty consistently use data to understand each student's next learning steps and to set suitably high goals for accelerating each student's learning.

This area of the school's work is proficient.

Building on results from the previous school year, key school staff worked together to analyze school data and determine the areas of need detailed in the Comprehensive Educational Plan. The parent coordinator, collaborative team teaching teacher, lead math and English teachers, and additional staff together then crafted plans to meet the school's overarching goal of one year's progress in math and English language arts for every student. This goal is clearly articulated and understood by all school stakeholders. Action plans for attaining this goal in literacy are clearly delineated and shared amongst

staff. A similar action plan exists in mathematics, but contains less detail. Also delineated are indicators of interim progress and achievement. Despite this, the school has yet to clearly identify interim goals which will allow them to know if they are on pace to meet the stated goal. There is acknowledgement that the school is not yet where they want to be in the area of goal setting, but there has been clear progress made since the preceding school year. Two additional goals identified in the Comprehensive Educational Plan include maintaining an attendance target of at least 92% and ensuring the use of technology as both an assessment mechanism and as an instructional tool used school-wide to support student achievement.

Teachers and students have good relationships in this school and students are well supported in both their academic and personal development goals through the school's learning group structure. Students create goals for themselves that their learning group advisors monitor. School staff is committed to improving student achievement, as are parents who note a clear commitment to their childrens' well being on the part of the staff. The recruitment and placement of a parent coordinator has meant greater participation of parents in the school where previously there was little parent involvement. The school has sought this year to build stronger relationships with parents through offering more frequent meetings focused on student progress and student learning goals.

Quality Statement 3 – Develop Coherent Instructional and Organizational Strategies: The school uses rigorous curricula, teaching and organizational decision making to engage students and faculty in meeting all students' learning goals.

This area of the school's work is proficient.

The school has a broad curriculum in place and there is a strong emphasis on project-based learning. This is evident in the choice of curricular materials that emphasize interactive learning. Connected Mathematics serves as the core mathematical program, but is supplemented by additional math materials as needed. The school's science curriculum is investigative, inquiry-based, and hand's-on. This year, the school has begun to offer Spanish, utilizing the Ahora! program which takes an interactive approach to language instruction. There is an aspiration to ultimately use Rosetta Stone software so that the number of language offerings for students may be increased. The Teacher Curriculum Institute's social studies program, adopted by the school, offers a scope and sequence for the school. Finally, the school uses a 55-minute English period for balanced literacy instruction.

In addition to the core academic subjects, the school offers an interesting mix of specials classes, which depart from the traditional extra curricular activities offered in schools. Students are afforded opportunities including: fencing, Latin and ballroom dancing and boxing. Attempts at interdisciplinary curriculum work have been undertaken but it is too early to tell what its impact will be. Technology, on the other hand is infused across all subject areas to varying extents as a tool to support student learning and it is evident that this has had a positive impact on teaching and some learning. Many teachers use this technology to have better understandings of student learning and many students appear more eager to know how well they are doing in their classes. Despite this broad curriculum, students at all levels of achievement, particularly the school's highest achievers, are not consistently challenged by the curriculum in place. To date, most emphasis has been placed on meeting the needs of the school's struggling learners. As such, differentiation within classrooms is uneven and there is insufficient differentiation within classrooms to meet the needs of all ability groups. Nonetheless, the formalized

“living groups” serve to support efforts to differentiate instruction. As all teachers are not yet “expert” at differentiation, living groups provide a formalized structure in which teachers can offer additional and personalized support to small groups of students, based on identified needs. Renzulli is only partially deployed across classrooms, so has yet to become a key part of the school’s approach to differentiating instruction. Living groups are also reflective of the culture of the school in that they serve to continue to foster the culture of mutual trust and respect that enables most students to have positive attitudes towards learning.

Quality Statement 4 - Align Capacity Building to Goals: The school aligns its leadership development and structured professional collaboration around meeting the school’s goals for accelerating student learning.

This area of the school’s work is proficient.

Teachers are committed to their own development and consistently focus on improving instructional practice so that they may increase student achievement and progress. The leadership team conducts frequent informal classroom observations and provides feedback on teaching and learning as well as on student engagement and interaction. Much professional development is focused on youth development. A professional goal setting process is now in place and each teacher had been asked to identify three goals and action steps. Teachers are supported in their development during weekly school-based professional development as well as through additional offerings outside of the school.

During grade and subject common planning, every two weeks, teachers analyze a range of student data, review student work, and plan lessons collaboratively. Meetings are more effective now that they are led by either principal or a team leader, have detailed agendas, and clearly document next steps. Specials teachers and special education teachers are given multiple opportunities to plan; once on their own and once with math and English teachers.

The school has rightly invested in additional human resources and organizational structures to effectively support students’ personal growth and study skills. In addition to securing mentors for the school’s new teachers, there has been strategic procurement and utilization of the resources to support the stated goals and initiatives. A carefully crafted schedule has fostered a more effective learning group structure, enabled special education students to join their general education peers for courses beyond the academic core, and afforded time for weekly professional development for all staff. In response to the needs which emerged in year one, new staff include a parent coordinator to get parents more deeply involved in student learning goals and a full time staff member to address issues of youth development. This has enabled the school to more carefully monitor and address behavior challenges, determine “hot spots”, focus on overage students and develop partnerships for real world careers. Staff additions have been critical in furthering the school’s very good work of creating and maintaining a culture of mutual respect and trust which supports the academic and personal development of students.

Now, in its second year, the inquiry team is more focused. The team is focused on a general education population of students who scored high 2’s and dipped in both English language arts and mathematics. Stated goals are still mainly general in that they aspire for this core group to reach Level 3 on their standardized assessments, but pacing calendars; particularly in English language arts are more specific and include short term goals. Math pacing calendars as of yet, don’t have the same level of detail. The team

does a good job of filtering the learning of the team to the rest of the school community through professional development sessions and department and grade team meetings. Yet another mini-inquiry project focuses on students who are overage or have failed multiple subjects.

Quality Statement 5 - Monitor and Revise: The school has structures for monitoring and evaluating each student's progress throughout the year and for flexibly adapting plans and practices to meet its goals for accelerating learning.

This area of the school's work is proficient.

There is a collaborative culture in place that supports teachers as they look at student data and to work towards improvement within their classrooms. Teachers, students and families are committed to the principals' vision and are dedicated to working to make it a reality.

The school team has accurately identified strengths and areas for improvement using testing data. As a result, the school leadership is responsive and flexible in making adjustments to the school organization and structures to ensure increased support for students. Among the changes made to better meet the needs of students, the house and living group structures were evaluated and revised early in the year as there was a feeling on the part of staff that the time was not being used most efficiently. In addition, the dip in math scores led the school to hire a seasoned math teacher to support leadership in mathematics instruction.

The school has identified the most important goals for ensuring student success. The extensive collection of data from a variety of sources supports knowing which areas must be attended to quickly in order to ensure sufficient progress. While the dip in 2008 math scores was predicted, the school now has action plans in place for moving student progress forward. The school's analysis of its most recent predictive assessments in mathematics, reveals that there will be no Level 1's and that the majority of students will receive Level 2's and 3's. The school is deeply confident about progress in mathematics. However, interim checks have not yet been established to ensure that students are on pace to meet the goal of one year's progress. There is a need to more rigorously embed the school's data systems for maintaining student progress so that teachers have a clearer picture of whether all students, and not just struggling students, are on track to make at least a year's progress.

School Quality Criteria 2008-2009

| | | | | |
|--|---|----------|----------|---|
| School name: Archimedes Academy for Math, Science and Technology Applications | Δ | ➤ | ✓ | + |
| Overall QR Score | | | X | |
| Quality Statement 1 – Gather Data: School leaders and faculty consistently gather, generate and analyze information on student learning outcomes and use it to understand what each student knows and can do, and to monitor the student’s progress over time. | | | | |
| <i>To what extent do school leaders and faculty regularly...</i> | | | | |
| | Δ | ➤ | ✓ | + |
| 1.1 collect and analyze actionable information, including assessment results and attendance data, to provide a complete view of the learning outcomes and needs of individual students and groupings of students? | | | X | |
| 1.2 focus analysis on the learning outcomes and needs of all sub-groups of students? | | X | | |
| 1.3 engage in an open exchange of information with students and families about students’ learning needs and outcomes, including assessment results and attendance data? | | | X | |
| 1.4 design or adapt tools to enable school leaders and teachers to organize and analyze student performance, identify trends and inform instructional and organizational decisions, and to enable students and their families to assess and track each student’s progress? | | | X | |
| Overall score for Quality Statement 1 | | | X | |
| Quality Statement 2 – Plan and Set Goals: School leaders and faculty consistently use data to understand each student’s next learning steps and to set suitably high goals for accelerating each student’s learning. | | | | |
| <i>To what extent do school leaders and faculty...</i> | | | | |
| | Δ | ➤ | ✓ | + |
| 2.1 use collaborative and data-informed processes to set measurable, actionable and differentiated learning goals in core subjects for individual students and groupings of students and develop differentiated plans and timeframes for reaching these goals? | | | X | |
| 2.2 use collaborative and data-informed processes to develop the school’s Comprehensive Educational Plan (CEP)? | | | X | |
| 2.3 ensure that the achievement of learning goals, and the implementation of plans and timeframes for reaching these goals, is the central focus of school leaders, faculty, students and families? | | | X | |
| 2.4 communicate high expectations to all students and families, and involve students in developing their learning goals and plans and in taking their next learning steps? | | | X | |
| Overall score for Quality Statement 2 | | | X | |

DEFINITIONS

“**Analyze**” or “**analysis**” includes, but is not limited to, comparisons of:

- the current and past outcomes of . . . individual students, administrative groupings and sub-groups of students and the school itself in core subjects;
- the outcomes of different classrooms and sub-groups in the same grades and core subjects; and
- the school’s Progress Report and other outcomes to those of peer/other schools

“**Assessment results**” include student outcomes on summative assessments (e.g., state ELA, math, science and social studies tests, NYSESLAT, Regents Exams, and Performance Based Assessment Tasks) and formative assessments aligned to the school’s curriculum (including Periodic, DYQ, and teacher-developed Classroom Assessments).

“**Core subjects**” are ELA, math, science, social studies/history, the arts, foreign language, and physical education/health.

“**Data-informed processes**” include analysis of Progress Report, Quality Review, Learning Environment Survey, Inquiry Team findings, assessment results and attendance data

“**Groupings of students**” include classrooms, grade levels and high school cohorts.

“**Organizational decisions or strategies**” refer to a school’s use of budget and resources, staffing, planning, scheduling, grade structure, departments and teacher teams and other aspects of the school’s structure and organization that can affect student outcomes.

“**Sub-groups of students**” include special education students, English Language Learners, the other NCLB sub-groups, boys, girls, and other groups significant to the school.

Quality Statement 3 – Develop Coherent Instructional and Organizational Strategies: The school uses rigorous curricula, teaching and organizational decision making to engage students and faculty in meeting all students’ learning goals.

| <i>To what extent do ...</i> | Δ | ➤ | ✓ | + |
|---|---|---|---|---|
| 3.1 school leaders and faculty deliver challenging and engaging curricula in core subjects, including the arts, that are aligned to state standards? | | | X | |
| 3.2 teachers plan and teach lessons that are differentiated to meet the needs of individual students and student groupings and are designed to enable all students to reach their learning goals? | | X | | |
| 3.3 school leaders make strategic organizational decisions to support a coherent and rigorous instructional approach that enables students to reach their learning goals? | | | X | |
| 3.4 school leaders maintain a culture of mutual trust and respect and positive attitudes toward learning that support the academic and personal growth of students and adults? | | | X | |
| Overall score for Quality Statement 3 | | | X | |

Quality Statement 4 – Align Capacity Building to Goals: The school aligns its leadership development and structured professional collaboration around meeting the school’s goals for accelerating student learning.

| <i>To what extent do school leaders...</i> | Δ | ➤ | ✓ | + |
|--|---|---|---|---|
| 4.1 use their own observation of classroom teaching and the analysis of student outcomes to implement an explicit, differentiated strategy to improve each teacher’s instruction, with a special focus on new teachers? | | | X | |
| 4.2 encourage teachers to take part in Inquiry Teams and other structured professional collaborations (informed by the examination of student work, assessment outcomes and their own peer observations) and share in the instructional leadership of the school with the goal of improved student learning? | | | X | |
| 4.3 provide professional development that encourages teachers to continuously evaluate and revise their classroom practices to improve student outcomes? | | | X | |
| 4.4 utilize youth development, support services and partnerships with families and outside organizations to accelerate the academic and personal growth of students? | | | X | |
| Overall score for Quality Statement 4 | | | X | |

Quality Statement 5 – Monitor and Revise: The school has structures for monitoring and evaluating each student’s progress throughout the year and for flexibly adapting plans and practices to meet its goals for accelerating learning.

| <i>To what extent do...</i> | Δ | ➤ | ✓ | + |
|--|---|---|---|---|
| 5.1 the school’s plans for improving student outcomes and its strategies for improving each teacher’s instructional practices include measurable interim goals and suitable time frames for evaluating success and making adjustments during the year? | | | X | |
| 5.2 school leaders and faculty use interim checkpoints and data to inform lessons, improve curriculum, differentiate instruction and revise student learning plans throughout the year? | | | X | |
| 5.3 school leaders use data to regularly evaluate the effectiveness of and modify organizational decisions, structured professional collaborations and teacher improvement strategies? | | | X | |
| 5.4 school leaders and the school community have a clear vision for the future development of the school and implement procedures and systems to support academic, personal and professional growth? | | | X | |
| Overall score for Quality Statement 5 | | | X | |

| Quality Review Scoring Key | | | | | | | |
|-----------------------------------|-----------------------|---|--|---|-------------------|---|-----------------------|
| Δ | Underdeveloped | ➤ | Underdeveloped with Proficient Features | ✓ | Proficient | + | Well Developed |