



**Department of
Education**
Carmen Fariña, Chancellor

**Quality Review
Office of School Quality
Division of Academics, Performance, and Support
2013-2014**

Quality Review Report 2013-2014

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

08X367

**456 White Plains Road
Bronx
NY 10473**

Principal: Miriam Lazar

Dates of review: November 13-14, 2013

Lead Reviewer: Timothy Behr

Part 1: The school context

Information about the school

Archimedes Academy for Math, Science and Technology Applications is a Middle-High School with 647 students from 6 through grade 12. The school population comprises 34% Black, 58% Hispanic, 1% White, 6% Asian, and 1% American Indian, Alaskan Native, Native Hawaiian, and Other Pacific Islander students. The student body includes 4% English language learners and 18% special education students. Boys account for 61% of the students enrolled and girls account for 39%. The average attendance rate for the school year 2012 - 2013 was 89%.

Overall Evaluation

This school is developing.

Part 2: Overview

What the school does well

- There is a positive school culture characterized by mutual trust and respect where a collegial faculty and staff support students' learning. (1.4)
 - The school has a safe, orderly environment and operates very smoothly on a regular basis, as evidenced by level four and five behavioral incidents that have significantly been reduced to 13 to date, as compared to 111 during the same time frame last year. Students have an active voice in the school. For this school year, there will be a school yearbook for the first time and they will assist in determining a theme and the content of the publication. They have organized a community service project by sponsoring a can drive. In consultation with the administration the student government decided there would be no dress code at the high school level as opposed to the middle school. The school is also making good use of its school survey data by extending the advisory homeroom period to maximize social and emotional learning.
 - To enhance student-teacher relationships and to provide a more supportive environment the school incorporates an advisory group into its schedule for all students. A sixth grader stated that she “feels supported, learns boundaries, and how to use time constructively in a living room environment” Students can share their academic and or personal experiences in a non-threatening situation. The theme GREEN (Graduate, Realize potential, Excited about college, do Everything you can, Never too late) reflects the thinking behind the action plan for advisory meetings, pushing all students to adopt positive social emotional learning behaviors. An incentive program recognizes good attendance each marking period, contributing to current average year to date attendance rates of 91% for the middle school and 89% for the high school. There are a myriad of extracurricular activities including seasonal middle and high school sports programs, with the high school girls' volleyball team winning the fall 2013 Charter Volleyball City Championship. As a result, students state that “school experiences are enticing and very rewarding”.
- The school conveys high expectations for learning by all staff and students and provides a supportive environment to maximize their learning. (3.4)
 - The principal conveys high expectations throughout the school. She models best practices by supervising an advisory group to improve student's time management and coping strategies and by teaching a Chemistry Regents review class. School leaders have prioritized creating an academic environment of high expectations throughout the school, via hallway and classroom display boards. To model standards for high quality student work they require that all teachers create bulletin boards that display samples of Common Core aligned student work with task statements, rubrics, commendations, and clear next steps to promote student learning. Constituents state how proud they are of this practice and how great the school looks. Professional development activities prioritize the Danielson competencies of questioning, discussion and assessments, to inform instruction and insure that all teachers know what is expected of them. The systems for accountability are in place through informal and formal observations with ongoing follow up and there is

mentoring to model best practices. Hence, administrators provide teachers with clear expectations and numerous learning opportunities to improve their instruction and professionalism.

- Qualified high school students participate in a free transition program sponsored by the Lehman and Monroe Colleges, with some students taking freshman level college courses. The school also partners with Syracuse University Project Advance to offer qualified seniors enrollment in courses for college credit. Students state that, their “time management and organizing for important information skills have improved from participation in these college partnerships”. The school received a \$550,000 technology grant to support all teachers in enhancing instruction by infusing illustrations, video and web-based resources to improve student engagement and career readiness outcomes. The school offers ongoing feedback to students and families, with summative and formative data on progress reports and report cards, as well as via teacher conferences that clarify expectations for student progress. The school via its Community Affairs and Parent Coordinators provide strategies (discuss school daily/check for homework and test results) for parents to support their children’s learning at home. As a result, students know what they need to do to be college and career ready and parents know what content areas strands they should support outside of school.
- The school uses the Danielson Framework to improve instruction and has aligned its professional development to support pedagogical growth. (4.1)
 - The school wide teacher practice of incorporating effective questioning and discussion techniques in instruction is supported through targeted mentoring and professional development for all teachers. All teachers have completed their Initial Planning Conference to outline observation choice and to review student work and data. Administrators distributed a lesson plan template as a guide to assist all teachers in crafting their lessons. All teachers have been observed formally and informally, including walkthroughs, contributing to ongoing feedback that includes next steps for teaching in relation to individual teacher goals. The school will continue to have workshops on lesson planning and use of student work and data analysis to strengthen instructional practice. As a result, teachers are supported in improving their practice, as evidenced by professional development logs and comments on observation reports.
 - School leaders are supporting teachers to incorporate the instructional shifts which have encouraged collaboration and collegiality. Teachers work with the administration to implement common core tasks using application of skills in order for students to demonstrate mastery of learning. Professional development activities continue to focus on improving questioning skills as evidenced by observation reports. Feedback is purposeful and linked to the Danielson Framework to clearly spell out what teachers need to do to build their capacity to provide targeted meaningful instruction for all students. Hence, teacher effectiveness is improving, as evidenced through observation of lessons.

What the school needs to improve

- Ensure that curricula across content areas offers all students access to learning activities that cognitively engage them in rigorous tasks and discussions to extend their thinking. (1.1)
 - Across classrooms, lesson plans show that students are not consistently engaged in rigorous activities. For a twelfth grade algebra class the task required students to complete problems that did not promote higher order thinking skills. Tasks for students in a middle school special education language arts class did not reflect use of the new common core aligned curriculum materials (Scholastic Code X) and was therefore not aligned to the school's curriculum map. Consequently, school leaders have yet to strategically analyze the efficacy of instructional plans to provide a more coherent and effective approach to teaching and learning that insures all students consistently have access to demanding curricula.
- Establish consistency in teacher use of instructional strategies, learning activities, and student groupings in order to provide high levels of appropriate challenge for all students at all achievement levels. (1.2)
 - Teachers articulate the shared belief that students learn best through problem based learning. The administration and faculty are prioritizing Danielson's Framework for Teaching, Domain 3: Instruction, to effectively gauge the pedagogical moves that they should implement for various scholars during lessons to improve student outcomes. However, these practices, especially questioning and engagement, are not yet consistently evident in all classrooms. In addition, the use of rubrics to evaluate student work is, as the principal acknowledged, "a work in progress". Further, although targeted assistance occurs in classrooms, some teachers tend to group students less strategically. For example a lesson in a special education classroom involved whole group instruction. Hence, teachers are not generally targeting instruction a strategically as they could to improve student performance, as evidenced by the 2013-14 high school cohort being currently below the city average in credit accumulation and an average of only 17% of the middle school students attaining a performance level 3 or 4 on the New York State English language arts and math assessments.
- Refine the school's assessment system to enable teachers to know their individual students' needs, strengths, and achievement on an ongoing basis, to support consistent targeted instruction across all subject areas. (2.2)
 - The school analyzes multiple components of student sub-group performance data. Opting into the core curriculums (Code X and CMP3) has systemized the use of assessments for English language arts and math at the middle school level. The measures of student learning committees at the middle and high school levels selected the growth model to evaluate school performance, choosing assessments for all the categories. However, teachers are inconsistently implementing on going checks for understanding (thumbs up, colored circles, characters) for students to summarize ideas and concepts, and not all teachers are consistently utilizing resources to plan data-driven, tailored instruction for different groups of students. Across classrooms the use of student portfolios to document standards based work is an inconsistent practice.

Consequently, consistent and effective analyses of trends to identify and or modify instructional strategies to address all students learning needs, is not yet evident across classrooms.

Part 3: School Quality Criteria 2013-2014

School name: Archimedes Academy for Math, Science and Technology Applications	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 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?		X					
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?		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 supports 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 those expectations?			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 student 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 Observe teachers using the Danielson Framework for Teaching along with the analysis of learning outcomes to elevate school-wide instructional practices and implement strategies that promote professional growth and reflection?			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