



**Department of
Education**
Carmen Fariña, Chancellor

**Office of School Quality
Division of Teaching and Learning**

Quality Review Report

2014-2015

**Aviation Career & Technical Education High School
Q610**

**45-30 36th Street
Long Island City
NY 11101**

Principal: Deno Charalambous

**Date of review: May 6, 2015
Lead Reviewer: Hongying Shen**

The School Context

Aviation Career & Technical Education is a high school with 2231 students from grade nine through grade twelve. The school population comprises 6% Black, 52% Hispanic, 11% White, and 29% Asian and 2% other students. The student body includes 3% English language learners and 9% special education students. Boys account for 81% of the students enrolled and girls account for 19%. The average attendance rate for the school year 2013-2014 was 95%.

School Quality Criteria

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

Area of Celebration

Quality Indicator:	3.4 High Expectations	Rating:	Well Developed
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Findings

The school leaders consistently communicate high expectations to the entire staff. The school has established a culture for learning that supports and ensures all students to be on a path to college and career readiness.

Impact

The school's high expectations ensure that all students, including English language learners and students with disabilities, complete academic coursework. All students are trained in the Aviation Maintenance program to pass a qualifying Aviation Maintenance examination for career readiness.

Supporting Evidence

- The school leaders consistently communicate high expectations to the entire staff around the elements of the Danielson Framework for Teaching. Based on the school wide goals and action plans, each department, including English, math, science, and social studies, sets specific departmental goals and expectations for the school year and conducts monthly departmental professional learning to create a culture of mutual accountability. The departmental learning topics include “multiple entry points to help students learn”, “rigorous instruction”, “differentiation (questions and grouping)”, and “what makes a question essential?” Besides conducting the formal observations which are grounded in the Danielson Framework for Teaching and providing written actionable feedback, the school leaders visit the classrooms and shops on a daily basis and give teachers feedback.
- The school leaders and staff effectively communicate high expectations of college and career readiness to students and families and support students to complete rigorous academic coursework, as well as all components of the Federal Aviation Administration (FAA) requirements and the Aviation Maintenance program training. Teachers from each content area and the aviation maintenance technology department communicate to students and parents the course expectations at the beginning of the school year in the course expectations contract. The school keeps parents informed of how their students are doing via Daedalus, an online database and the school website. The regular parents' association meetings provide parents with updated information connected to their students' college and career readiness. Periodically, parents receive communication letters of praises from the guidance counselors who inform them of how their students have improved in their academic work. The principal, assistant principals and the guidance counselors meet individually with each student who fails a class after each marking period to help them get back on track towards the expectations. As a result, the school has achieved an 83% rate of students who have successfully completed approved college preparatory courses and assessments, and 82% of the students graduated from the school enrolled in a college or other postsecondary program within 6 months in year 2013-2014.
- The school partners with families to support student progress. Parents shared that the school is like home and they can always reach the teachers, assistant principals and the principal, and that there is always someone helping them and their students. One parent shared his experience of working with his student's math teacher and assistant principal, and how he found a strategy to support his student by helping him organize the notes of each math lesson on index cards for review, and how the student now passes everything.

Area of Focus

Quality Indicator:

2.2 Assessment

Rating:

Proficient

Findings

The school uses common assessments, grading policies and rubrics that are aligned to the curricula to determine student progress. Teachers' ongoing checks for understanding and student self-assessment help teachers make adjustments to meet all students' learning needs.

Impact

Teachers keep track of student progress through subject area assessments, and use the data to adjust instructions. Students reflect on their learning and are aware of the progress they make through self and peer assessments, yet the practice of benchmark assessments to portray student mastery varies across subjects.

Supporting Evidence

- Across classrooms, teachers use assessments, rubrics, and grading policies that are aligned with school curricula, and all assessments in the Aviation Maintenance classes are aligned with FAA standards. The school uses a variety of resources, such as questions from past Regents exams, PSAT/SAT, Advanced Placement Exams, and tasks from EngageNY to align assessments in all departments, including English, math, social studies, and science. Each department has its own grading policy. FAA national norms are used to identify strengths and areas in need of additional focus, and to modify instruction to improve student learning and performance thereby meeting industry standards.
- Across classrooms, teachers use formative assessment data to check for student understanding and inform instructional decisions regarding student achievement. For example, the math department gives a mathematics performance indicator test and algebra skills test, analyzes the test results to understand where the students are and place them accordingly, in first and second year algebra or in algebra 2 and trigonometry courses. The school is working on benchmark assessments for all departments to offer a clearer portrait of student academic mastery, thus providing meaningful feedback to students regarding their achievement.
- Teachers monitor student learning during lessons by asking questions and by guiding students to use rubrics for self and peer assessments. For example, at the end of a marking period, an English teacher asks her students to use a group work rubric to reflect on how effective they are as an individual and as a group in completing tasks. A review of student notes reveals that in social studies and in English classes, students write their daily reflection and summarize what they have learned; yet students may need a clearer guidance as to their next learning steps. One example of student assessing student shows how in a U.S. history class, students assess each other's essay on progressive reform by using an essay rubric. Students give each other comments on thesis statements, the use of documents, and the use of historical content.

Additional Findings

Quality Indicator:	1.1 Curriculum	Rating:	Well Developed
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Findings

Across grades and subjects, curricula are aligned to Common Core Learning Standards and content standards. The school integrates the instructional shifts in curricula to give all students access to rigorous tasks that promote college and career readiness.

Impact

The school's curricula decisions build coherence across grades and subjects, and all students are engaged in rigorous habits and higher-order skills in both academic tasks and FAA project-based learning.

Supporting Evidence

- The school has developed Common Core aligned units and lessons in all core subjects with instructional practices informed by Danielson Framework for Teaching. The instructional focus on literacy across grades and subjects results in coherence in the curricula. The social studies department strategically integrates a writing unit, based on a topic learned in class, in each marking period for each grade level. In the aviation maintenance program, teachers incorporate Common Core Learning Standards in reading, writing, and oral expression in the curriculum to help students develop an in-depth understanding of the subject matter expertise that enables students to perform practical applications and become college and career ready. The science curriculum uses an inquiry-based, interdisciplinary approach to challenge all students in projects that afford them the opportunity to actively engage in a meaningful way with the materials. Students shared that they need their literacy skills to read all types of graphs and instructions in the FAA manufacture and installation packet to complete tasks in aviation maintenance shops, and they need science, physics, and mathematics knowledge and skills to complete their training in the program. All students have access to the same curricula and training and the school curricula prepare students for the academic challenges, as well as the challenges in the real world problem solving. As a result, the school exceeded the student achievement target in school quality in year 2013-2014.
- Rigorous habits and higher-order skills are emphasized in academic tasks. In an English project on Hamlet, students are required to complete the project in groups to demonstrate a thorough understanding of the play. Students need to negotiate and reach a consensus on one of the three options to demonstrate their understanding of Hamlet's themes, main characters, dialogue, and essential plot points. The three choices of creating a movie poster, creating a trial or making a newspaper front page provide all students, including English language learners and students with disabilities, with multiple entry points for demonstrating their thinking. While in a social studies and technology interdisciplinary co-teaching unit, the multiple entry points are applied in the way materials are presented, through pictures, graphic organizers and texts on the topic, "How does the FAA act as a bureaucratic agency?"
- Teachers modify instruction to provide all students with access to the curricula. For example, teachers use the texts of Supreme Court Decision 32 Gideon v. Wainwright (1963) and other court decisions with guided questions and represent the complex texts in a cartoon series to illustrate the essential ideas. Thus, all students have access to the materials and are able to participate in the rigorous and engaging instructional experiences.

Quality Indicator:	1.2 Pedagogy	Rating:	Proficient
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Findings

Across classrooms, teaching practices are aligned to the curricula and student work products and discussions reflect high order thinking.

Impact

Teacher practice and instruction are informed by Danielson Framework for Teaching and students are engaged in high order thinking and participation.

Supporting Evidence

- The school's instructional focus on questioning and discussion reflects the belief that students learn best when they are engaged in high order thinking and participation. In a US history class, the teacher engages students in a discussion on the topic "how did the Watergate Scandal affect Richard Nixon's Presidency?" and students are guided by the teacher to answer high order questions leading to the understanding through the teacher-student interaction. While in a shop class, students interacted among themselves at each work station to interpret the charts and graphs and build an electrical circuit. They talked about their work and corrected each other's missteps in the conversation.
- In a grade 9 integrated co-teaching English class, the teachers started the lesson with a group task. Students were to explore the themes of "A Raisin in the Sun", a play they were going to read. They were instructed to collaboratively argue their claims and support for their position on the statements for the anticipatory themes in the play. Student roles in the group were assigned based on the student's strengths and needs. Each group worked on one statement, such as "You should hold onto your dreams; if you work hard enough for them they will come true." The group would first decide whether to agree or disagree with the statement assigned to them and then provide reasons.
- In an integrated algebra class, students were instructed via the SMART board presentation. The teacher modeled how to make sense of problems using bar graphs and number lines. Individual students were called upon to answer the mathematical questions to show their understanding. In a geometry class, students worked on how to find the surface area of solids. They worked in groups to make a solid, a cylinder, cone, pyramid or sphere and decide on the formula for its surface area.
- In a grade 9 living environment class, students were discussing the possible solutions to the plastic waste accumulated in the North Pacific Gyre and its effect on the Pacific Ocean's ecosystem. Rather than taking the ownership of this high order discussion and sharing of ideas, individual students were called upon by the teacher to agree or disagree what their peers had said.

Quality Indicator:	4.2 Teacher teams and leadership development	Rating:	Well Developed
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Findings

The vast majority of teachers engage in inquiry-based professional collaboration that supports analyzing students work and improving teacher practice. Teachers have input on key decisions about curricula and teaching practice.

Impact

The teacher-led professional learning and collaboration has resulted in the improved teacher practice that affects student learning throughout the school.

Supporting Evidence

- To have structured professional collaborations, teachers decided and voted for half-day common planning time. Teachers meet to align units and lessons to the Common Core Learning Standards and FAA standards, look at student work, and review student individualized education programs. The math teachers collaborate on the math curriculum to shift it from covering all topics and skills to focusing on what students need most for academic success and realign the topics and skills to the standards. The school leaders, including the guidance counselors, met with each individual student who failed a class after the first report cards were distributed and discussed with students the reasons for not succeeding in the class. Then, the school provided the necessary resources for the students to catch up with the work. As a result, the passing rate went up from 90.5% of the first marking period to 91.5% of the second marking period.
- Teachers shared that they have a greater sense of empowerment when the departmental framework shifts from teacher evaluation to professional learning. The common planning time in the multi-session school enables teachers to collaborate across grades and subjects and make instructional decisions that affect student learning. Teachers from the aviation maintenance program collaborate with the teachers in the English department and choose books that relate to aircrafts to make the learning connection. The math teachers make key decisions on math curriculum to meet student needs. Teachers analyze student work and performance and decide on a two year algebra and trigonometry course for those students who study at a different pace. As a result, those who failed a one year math course make great progress in the new course.
- Teachers use a teacher-created protocol to look at student work and adjust teaching. A review of teacher work shows that the social studies teachers examine the grade 9 US history and grade 10 global history midterm exams with the protocol to notice the similarities in student work, and determine what students have mastered or need to improve on. The instructional decisions made include a department-wide use of the New York State rubric to align the course objectives to the Regents expectations to affect student learning.
- Teachers take ownership in the teaching and learning process, and the collaboration strengthens teacher instructional capacity. During the teacher team meeting observed, the math teachers discussed strategies for teaching factoring and shared how focusing on questioning helps students understand math concepts, for example, rewording a question so that it requires students to explain “how” and “why”, not to answer with a “yes” or “no”. Three math teachers worked on a lesson on solving complex quadratic equations and revised the lesson three times, as each taught the lesson in order to achieve the best result.