Department of Education
Carmen Fariña, Chancellor

Office of School Quality
Division of Teaching and Learning

Quality Review Report

2014-2015

City Polytechnic High School of Engineering, Architecture and Technology

High School K674

105 Tech Place
Brooklyn
NY 11201

Principal: Yusuf Muhammad

Date of review: March 17, 2015
Lead Reviewer: Mark Ossenheimer

The School Context

City Polytechnic High School of Engineering, Architecture and Technology is a high school with 451 students from grade 9 through grade 12. The school population comprises 66% Black, 20% Hispanic, 4% White, and 7% Asian students. The student body includes 2% English language learners and 10% special education students. Boys account for 74% of the students enrolled and girls account for 26%. The average attendance rate for the school year 2013-2014 was 91.0%.

School Quality Criteria

Instructional Core		
To what extent does the school…	**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**	**Developing**
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	**Focus**	**Developing**
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	**Additional Findings**	**Developing**
School Culture		
To what extent does the school…	**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**	**Proficient**
Systems for Improvement		
To what extent does the school…	**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**	**Proficient**

Area of Celebration

Quality Indicator:	3.4 High Expectations	Rating:	Proficient

Findings
School leaders consistently communicate high professional and instructional expectations using the Danielson Framework for Teaching, provide training, and have a system of accountability. The school communicates college and career expectations for families and all students.

Impact
The school has established a culture for learning that communicates high expectations and provides the guidance and supports necessary for staff, families and students to meet those expectations.

Supporting Evidence

- School leadership communicates the expectation to move towards student-centered classroom instruction through the Danielson Framework for Teaching. They focus on student discussion and accountable talk through a staff retreat, weekly emails, professional development, as well as consistent feedback and accountability in Advance teacher observation reports. The principal and assistant principal also taught a United States History and Algebra 2 class respectively second trimester in order to model expectations.

- The school uses Jupiter Grades, an online system that allows parents full access to their child's assignments and grades in order to help them understand their progress. The system also sends weekly emails and texts to parents with updates. Parents state they send and receive emails and phone calls from teachers regularly. The school has also organized the Parent Teacher Association into two sub-groups focused on supporting families when their child is in the accelerated three-year high school program and when they are then enrolled in the early college program at New York City College of Technology.

- The school has three majors within the Career and Technical Education (CTE) program: Construction Management, Civil Engineering Technology, and Architectural Technology. All students are exposed to all three majors before students in the early college program select on the three to major. The Workplace Experience Coordinator ensures students receive workplace job shadowing experience, mentorships, and internships aligned with their respective majors.

- The school is an early college program in conjunction with New York City College of Technology. It currently has a five-year model, with students taking courses in trimesters, allowing them to meet graduation requirements in three years and then earn an associates degree in two years, taking college and CTE courses at both the high school and at the college. To support students and increase guidance supports for students to qualify for college-credited courses, the school has an advisory program for all grade 9 students, academic enrichment and support after school, a college writing course for third year students, and preparation courses for the Regents exams on Saturdays.

Area of Focus

Quality Indicator:	1.2 Pedagogy	Rating:	Developing

Findings
Across classrooms, the instructional focus of student-centered classrooms and the related strategies of questioning, accountable talk, purposeful grouping and scaffolds are beginning to be reflected in practice as well as student work products and discussions.

Impact
The uneven use of instructional strategies do not yet consistently provide multiple entry points that result in the demonstration of higher order thinking skills in discussions and work products for all learners including students with disabilities and higher achieving students.

Supporting Evidence

- While students were seated in groups across classrooms, the routines or structure of the group tasks led to uneven engagement. For example, students in a Living Environment class were in lab partners or groups with clear steps on conducting the plant identification lab so that all students understood the task requirements and their role within the group. However, in an English class, students were grouped randomly for a character trait/text-based evidence activity with groups engaging at various levels because of unclear responsibilities in relation to the task and the fact that only some students had completed the perquisite homework. The result being students who were prepared to engage in the task could not engage at the level they were prepared to do so and other group members sat silently completing the homework.

- Accountable talk stem visuals were hung across classrooms, however across classrooms, teachers or students did not refer to the stems. Thus, students had limited opportunity to build on the ideas of peers. The majority of class-based discussions followed a teacher-student-teacher pattern. For example, after a student presentation in a history class, students were not provided the opportunity to ask questions, so only the teacher asked questions of the presenter.

- Scaffolds and extensions were limited across classrooms. While one integrated co-teaching (ICT) math class had groups of students engaged in different problems to be shared-out, a different ICT math class and a history ICT class had undifferentiated tasks and processes. This resulted in uneven engagement in appropriate level tasks. For example, when a group of three finished the history task there was no extension so they sat quietly waiting for other groups to finish.

Additional Findings

Quality Indicator:	1.1 Curriculum	Rating:	Developing

Findings
Leadership and faculty are in the process of aligning curricula to content standards and integrating the instructional shifts. Curricula and academic tasks reflect planning to cognitively engage learners, however this is not yet happening explicitly for students with disabilities.

Impact
The school's curricular decisions are building greater coherence and promoting college and career readiness for students.

Supporting Evidence

- The school utilizes the Understanding by Design (UbD) curricular framework with teachers posting and revising units through an online platform. The common structure requires teachers to map and develop alignment between standards, knowledge and skills with the learning activities and assessment of the unit. A review of unit plans reveals inconsistencies in planning for such alignment. For example, a math unit entitled *Descriptive Statistics* is fully aligned utilizing the UbD framework outlining the skills, knowledge, key vocabulary, assessments, and corresponding learning activities. However, two other reviewed units demonstrate misalignment or incomplete plans. An English unit on the Harlem Renaissance, contains assessments using the Depth of Knowledge (DOK) levels, but does not include learning activities. A unit on the Industrial Revolution contains a document-based question and thematic essay within the learning plan, however there are no assessments using the DOK levels.

- The school received a New York State Pathways in Technology Early College High School (P-TECH) grant and will become the seventh New York City school to participate in the P-TECH program. The school is transitioning from a five year to a six-year early college model with faculty across departments realigning curricula from a trimester system to a semester system. The CTE department is also working with industry partners such as Parsons Brinckerhoff, Cisco, and the New York State Society of Professional Engineers to embed industry work-based and career skills into the new scope and sequence.

- A review of lesson plans demonstrates inconsistent planning for differentiated instruction, especially for students with disabilities. While a CTE engineering class lesson on designing a robot arm did cater to a variety of learning styles, the section referring to students with individual education plans was not completed. In addition, while a lesson plan for a general education class did include planned differentiation strategies including kinesthetic, aural, and visual modalities, the four ICT classes did not embed differentiation or varied co-teaching structures in their planning documents.

Quality Indicator:	2.2 Assessment	Rating:	Developing

Findings
Across classrooms, teachers use assessments and rubrics that are becoming aligned to the schools curricula and assessment policy. Teachers' classroom assessment practices reflect an inconsistent use of ongoing checks for understanding and student self-assessment.

Impact
Assessments and rubrics provide limited feedback to students regarding achievement and next learning steps. The limited use of checks for understanding during instruction results in inconsistent adjustments to meet student-learning needs.

Supporting Evidence

- The school has developed a calendar across subjects of six teacher-designed interim assessments. The assessments inform teachers regarding student achievement level, however students could not articulate their own levels of achievement or growth on these assessments outside of overall course grades.

- A review of student work across subjects demonstrated the majority of work is assessed using percentages, checks and some circled rubrics. For example, posted essays for global history had a task sheet that explained the assignment, but there was no rubric providing a clear picture of mastery to students or demonstrating alignment to the Common Core literacy and State Regents standards. The essays had limited to no written feedback and all were marked with a check for completion, with no next learning step. However, a geometry class had work posted with clear feedback and questions posed to students designed to push their thinking and next steps. Students stated in the student meeting, "almost all of our feedback is verbal."

- The use of checks for understanding is limited in planning and implementation to exit slips and informal, non-tracked teacher conferencing during individual or group work. For example, an observed Living Environment class had planned for a check for student understanding according to the lesson plan that asked students to write down questions they were not able to answer during a pair-share notebook review activity. However, this direction was not articulated to the students so neither the teacher or the students were able to determine any patterns in misconceptions.

Quality Indicator:	4.2 Teacher teams and leadership development	Rating:	Proficient

Findings
Teachers are engaged in structured professional collaborations on teams using an inquiry approach that promotes school goals as well as shared leadership.

Impact
The school's structured teacher teams and professional learning support the strengthening of the instructional capacity of teachers. Distributed leadership structures provide teachers a voice in key decisions that affect student learning.

Supporting Evidence

- The school has structured, teacher-led team meetings that encompass all aspects of the school. For example, department chairpersons lead weekly academic subject team meetings, grade team leaders lead bi-weekly grade team meetings, and the professional development team develops the weekly professional learning activities.

- A calendar and review of lesson plans for faculty-led professional learning meetings demonstrate a focus on school-identified strategies to improve instruction based on the Danielson Framework for Teaching. The professional learning includes topics such as accountable talk and using formative assessments during instruction. Meetings scheduled for the remainder of the school year include writing across the curriculum. These meetings are teacher led in order to develop teacher leadership and share best practices.

- In order to support the school goals of increasing a positive school culture and attendance rates, the observed 10th grade team collaboratively problem-solved how to best serve struggling students presented by a teacher on the team. Using a protocol adopted from the National School Reform Faculty, the team identified issues, developed possible interventions and established roles and responsibilities in determining next steps. The school goal of incorporating work place skills into the CTE curriculum is supported in the CTE department meeting. Teachers who had met with industry experts were collaboratively working to embed these skills into their scopes and sequences, as well as unit plans.

- Weekly cabinet meetings comprised of administration, grade team leaders, and key guidance staff meet weekly and the instructional leadership team comprised of administration and department chairpersons meet bi-weekly as a forum for teacher leaders to brainstorm together on leadership dilemmas and for issues from those teams to be raised with administration. One key decision this year was the teacher proposal to increase the meeting times for teams by using professional periods during the day.