

# NOTES FROM THE FIELD: NYC STEM STUDY TOUR

Dr. Rochy Flint,  
*Teachers College, Columbia University*

Teachers College has a rich history of conducting study tours across the globe, with some participants sharing their findings here at *JMETC*. In 2019, we, in the Program of Mathematics at Teachers College, began looking closer to home. Situated in the heart of NYC, a city with a rich tapestry of diverse cultures and educational institutions, we decided to explore the state of STEM education in NYC. In the spring of 2024, we conducted a second NYC Study Tour, eager to see what is happening in STEM education in a post-COVID-19 world.

In 2019, we organized the NYC STEM study tour with a focus on specialized high schools. While these schools were accomplishing remarkable things, we observed inequities in the types of opportunities available to certain demographic groups, institutionalizing a lack of access for Black and Latinx communities. In 2024, we expanded beyond specialized high schools. Where in 2019 we were distraught by inequities, this year's tour not only reframed the narrative but also revealed something profoundly inspiring—a celebration of excellence and culture. We encountered the lighthouses of NYC, where young scholars of all backgrounds are leading the way in technological advancements, with each project driven by an urgency to serve the community.

Rather than trying to push students into the specialized framework—though we did learn about the relatively new Discovery Programs, which are addressing needs within the specialized high school sector—our recent tour focused on institutions that are built with a culturally relevant pedagogy framework, providing comprehensive educational experiences that showcase innovation and success while catering to their surrounding communities.

We explored questions such as: How does the pedagogy cater to the school's demographic? What programs are offered to help ameliorate the vast segregation issues in NYC public schools? Are classes interdisciplinary? Do they implement student-centered models that foster collaboration over traditional lecture-based instruction? How do students feel about mathematics inside and outside the classroom? Although these questions may not be directly addressed in the following articles, they were at the forefront of our observations during the tour.

Throughout the tour, we met with leading STEM educators, observed classes, and engaged with teachers, administrators, and students. We also visited renowned museums with a focus on STEM initiatives. A true highlight was the opportunity to connect with TC alumni who are at the forefront of STEM education, doing incredible things. The institutions we visited were diverse: an all-girls school, a magnet institution, a bilingual school supporting a migrant community, inner-city schools, a community college, and two renowned museums.

There is a Hebrew adage, *Chinuch L'naar Al Pi Darko*, which translates to “educate a child according to their way.” This principle emphasizes that the child should be central to the framework of the education system. We must create a system that nurtures the needs of the child rather than forcing the child to acclimate to the needs of the pre-constructed educational system.

One instance on the tour that electrified our participants was sitting in TC alum Andrés Rodrigues-Aponte's classroom. We observed Aponte guide young scholars as they defined triangles in their own terms. He passionately led his students down a path of deep learning and discovery, ending the lesson with the following affirmations in both English and Spanish: “I am great. I will do great things in life. I will respect and help my classmates, because we are a great family; Yo soy grande. Yo lograré grandes cosas en la vida. Yo respetaré y ayudaré a mis compañeros y

compañeras de clase, porque somos una gran familia.” The students brought their whole selves into the classroom, where their culture and mindset were valued.

We are grateful to all of the institutions for generously, enthusiastically, and warmly opening their doors, classrooms, and labs, giving us a unique opportunity to observe them in action. We enjoyed eye-opening conversations with students, teachers, supervisors, and administrators from all walks of life. The levels of excellence we observed left us optimistic—there were plenty of “wow” moments! STEM education is thriving!

This section of the journal offers a glimpse into some of the observations TC participants made and analyzed during the tour, showcasing the diverse work happening in real time in NYC. While some institutions focus on siloed subjects in a traditional approach, others adopt an interdisciplinary method. For us, as active observers, it became clear that excellence does not come in one form; however, a common thread was that an immersive interdisciplinary approach fosters the deepest engagement.