



TITLE:

CULTIVATING TEACHER MINDSET, ONE GRADE AT A TIME:

CAHN FELLOW:

Christina Villavicencio

CAHN ALLY:

Sergio Herrera

PS197Q “The Ocean School”
825 Hicksville Road
Far Rockaway, New York ,11691

WEBSITE:

<https://insideschools.org/school/27Q197>

Email Addresses:

cvillav@schools.nyc.gov , Sherrer4@schools.nyc.gov

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ABSTRACT

Welcome aboard the Ocean School "A" train to Far Rockaway! As we embarked on developing growth mindset in Math instruction. Our first stop embraced teachers in deep conversations around growth mindset by using a diagnostic lens which fosters mathematical reasoning and practice. At our next stop, we engaged teachers in a deep dive on students' Math performance spanning three years. Through this data analysis, we learned that the root cause was not student oriented but rather a "fixed" teacher mindset. As we approached our final stop on the Ocean School "A" train, we realized the problem of practice wasn't solely our third grade teachers; our problem of practice went back to our early childhood mathematical instruction. Wait, wait...the conductor has just informed us that there is a math problem on the track ahead. Please remain in your seats as we await further directions from our conductors as we head to P.S. 197Q Central Station.

INTRODUCTION

Our mission is deeply rooted in the belief of creating an academic environment committed to social and emotional learning conditions for scholars and staff. We pride ourselves in believing and engaging in a collaborative school culture and the results on our 2017 School Snapshot. We emphasize strong collaboration practices in teaching and learning. This will yield higher expectations for our scholars and ourselves and ultimately increase academic performance and well-regulated scholars.

Our school, The Ocean School (27Q197), is a community school in "Good Standing" as per New York State standards. We are located in Far Rockaway, Queens. We are situated in a peninsula. The Ocean School is three blocks away from the Atlantic Ocean in Far Rockaway and we are only 10 minutes walking distance from Long Island (Five Towns) and about 15 minutes away from John F. Kennedy Airport (JFK). There are several ways to get to our school:

- By the A train – ride to the last stop (it is approximately a one and a half-hour train ride from Manhattan) and then walk about 20 minutes from the train station.
- By car – we have only one road along the peninsula. It is connected with the main land by two toll-bridges and a road that is parallel to JFK International airport.
- By bus - not a direct ride from the main land (it requires changing several busses that will total a travel time to over two hours).

This geographical data presents challenges for our school community because there are limited and very long ways to commute to and from our school.

The Ocean School is a Title I school serving 96% of students who qualify for free lunch (FRL). We are a grade 3K-5 school with 540 students that comprise of 48% African Americans, 47% Latinos and 5% other (White/Asian). Our demographics include 21% Students With Disabilities (SWD) and 18% Multi-lingual Learners (MLL). We are the only school in Far Rockaway with a PreK-5 Spanish Dual Language program. Our community suffered significant trauma following Hurricane Sandy prompting us to partner with Bank Street's Emotionally Responsive Practice. We strongly believe in supporting our scholars, teachers, and parents through Social Emotional Learning (SEL). We are a "TC SCHOOL" having partnered with Teachers College for both reading and writing instructional practices. We also have two consultants that work diligently with our ENL/dual language teachers and a math specialist/coach from National Training Network (NTN) for math support. We use the Go Math program and supplement it with "Key Elements of Mathematics Standards" (KEMS) as our math models.

The Ocean School is a proud Apple ConnectED school having received a significant technology grant. We are one of fourteen schools in New York City and one out of the 114 that were awarded this grant nationwide. Our grant provided iPads for scholars and laptops/iPads for all teachers and administrators. The

grant allowed our teachers to engage in professional learning that focused on infusing technology instruction and assessment across all grades.

In 2017, our school received “Collaborative Teacher and School Culture for School Improvement” recognition by the New York City Department of Education Office of Renewal Schools. We were one of ten recognized schools out of 86 Renewal schools as a result of our academic improvement. In January 2018, we were designated as a “Rise” school having met the minimum benchmark of 2.50% established by the Department of Education for math, reading, and attendance. We have demonstrated continual improvement and while we celebrate these successes we have more work to do. We need to accelerate teaching practices and students’ academic performance to be above and beyond benchmarks.

Our Ocean School is a “Community School.” We have partnered with both the Young Men’s Christian Association (YMCA) and the Child Center of New York (CCNY). Both organizations provide after school academic and tutoring support for our scholars for 3 hours daily and summer camps. This partnership has increased student attendance and participation in the arts. As a result of our community partnerships we are able to offer swimming classes, dance academy, drum line, soccer, basketball, baseball and SEL. Our community organizations are an integral part of our school community and have been instrumental in bringing needed resources for our families. We have a year-round food pantry, cook shop for students/families, dental services, on-site mental health services with two social workers, clinicians and optometrist services for our children. All of these services are provided and conducted on school property.

STATEMENT OF THE PROBLEM

The current problem of practice at the Ocean School stems from our instructional rounds observations during math instruction across the grades and from our latest 2018 Math State data. Forty-four of our third graders scored at Level 1 (the lowest level of performance in mathematics on the New York State assessment out of four available levels) 28% of third-graders scored at Level 2 (this level is below mastery level but in close proximity), 23% scored at Level 3, and only 5% scored at Level 4 (levels 3 and 4 are considered mastery levels). Overall, 38% of all our students performed at Level 1, 30% at level 2, 22% at Level 3, and 10% at Level 4. Although, we have shown a 10% growth in the New York State Mathematics examination from 2017 to 2018, we needed to understand why our students were still not achieving higher- level results.

We conducted observations of third grade mathematics classrooms intensively, analyzed teachers’ mathematics lesson plans, and concluded that mathematics instructions at our school is not differentiated and student data is not being used for small group work during instructional time. Overall patterns at our school included whole class instruction and limited student assessment during instructional time. Teachers used “thumbs up and thumbs down” as checks for understanding and did not ask higher order thinking questions. In respect to the social-emotional thermometer in third-grade classrooms, teachers often expressed how “baby” like behaviors are seen during the first part of the semester. They repeatedly expressed how “low performing” students are in third grade and that it takes them a month or more to bring them “up” to where they supposed to be in September. This led us to the question: How can we support our third-grade teachers so their instruction will increase our scholars’ deep understanding of mathematical skills and their performance on the State Math exam will improve? This led us to our theory of action and how we will embed teacher support.

Our theory of action was formulated as follows: if we effectively support our 3rd-grade teachers in mathematics, then we will have a higher percentage of students at Levels 3 and 4 on the New York State Mathematics exam. This theory of action promotes our inquiry work within various areas of teaching and

learning and will allow us to dive deeper into instructional methods used by our third-grade teachers. Furthermore, we will focus our instructional rounds on teacher practice, content knowledge, learning environment, math curriculum, and lesson planning. Finally, by identifying the expectations of teachers, parents, coaches, and administrators we will be able to gauge, observe, and include teachers in developing our school “math culture.” We will measure and track the progress of our goal by implementing the following:

- Develop a checklist/rubric for emotionally responsive practices that will serve as benchmark goals during our inquiry work
- Utilize *Danielson Framework for Teaching*
- Administer math assessments

The above-mentioned checklist, rubrics, and assessments will be used to assess the following:

- Progress of teachers and students who embed emotional responsive classroom practices
- The cycles of Math RTI and teaching practices
- Learning conditions in classrooms
- Social, emotional learning during math
- Monitor the daily Problem of the Day (POD)
- Analyze student work
- Revise the assessment math calendar
- Facilitate weekly common planning meetings
- Conduct lesson planning sessions
- Plan weekly Data Wise inquiry teacher teams

As we triangulated data from various data sources, it became clear what our action plan has to be in order to improve teaching practices and student performance. Approximately 95% of the teaching staff is new with an average of six years or less of teaching experience. Our instructional focus is to increase student engagement, build reading stamina, student writing, and mathematics. For the past three years, we have been working with teachers in the area of “checking for understanding” and higher-order thinking through thought-provoking questioning and discussion. The challenge has been providing differentiated professional learning opportunities that can accelerate content and pedagogical knowledge. For this project, we are focusing on mathematical practices and students’ academic performance.

Below are the following benchmark assessments that we will be analyzing and tracking in order to gauge growth or lack thereof (benchmark and cycles are based on the school assessments calendar):

- Ready assessment
- Go Math unit assessments
- Math state assessments
- KEMS Assessments
- Problem solving tools such as, S.O.L.V.E (S is for Study the problem, O-organize the facts, L - line up a plan, V - verify your plan with action and E- examine your results)
- Student work.

As a school leader, I am looking forward to leveraging and maximizing our human resources by empowering the roles of classroom teachers, lead teachers, coaches and consultants. I aspire to enhance my organizational and instructional leadership skills by building teacher capacity, specifically focusing on the teaching of mathematics language. Additionally, I would like teachers to understand and be able to employ rigorous mathematical instruction. Ultimately, I would like to have an authentically driven professional learning community.

METHODS

Analysis of our formative Math school data, consultations with expert practitioners, feedback from classroom teachers, classroom observation and outcome data from the June Instructional Report (New York State Assessment) provided an in-depth understanding of the problem of practice. We hope to gain a greater understanding of the root causes that need to be addressed.

My cabinet and I have discussed teacher mindset and the possible effect it has on students. We decided to have discussions with third-grade teachers that centered on their mindset on mathematical content. As a result, teachers' mathematical questioning to students were closely monitored during classroom instructional rounds. Additionally, formative math school data and the data from the June Instructional Report (New York State assessment) indicates that SWD and MLL learners performed at a 23% passing rate; general education students performed at a 51% passing rate. Analysis of student work by teachers states that SWD and MLL students perform two or three grade levels below their current grade-level. Therefore, the influx of students from Central America, most of whom have missed school for years or months, has factored into instructional delays in mathematics. Our National Training Network consultant feedback also informs administration that teachers at the Ocean School have concerns with the Mathematics Common Core Standards. Teachers have asked for support around mathematical standards. Furthermore, my cabinet and I have discussed trends in teachers' practice (low rigor and minimal differentiation) and frail implementation of the feedback given to teachers based on instructional rounds. These findings have led us to revisit and analyze the following qualities at our school:

- Structure of the school's professional development
- Quality of professional development
- Individualized support to teachers
- Support needed by school leaders
- Actionable and timely feedback to teachers
- Teachers' and school leaders' mindset

While working on this project, our team looked at how we are delivering professional development focusing on "Does Staff Development Improve Student Learning?" (T.R. Gukey, 2009, p.ix). Based on instructional rounds of teaching practice, consultants' feedback, and teacher feedback, we have concluded that teachers need more individualized professional development support. This realization, along with the analysis of our written feedback to teachers, brought us to surface the topics that have been "invisible" to our leadership effectiveness and the school's cultural awareness. We were becoming "Change Leaders", and "Change Leaders know that they do not change organizations without changing individual behavior" (D.B Reeves, 2009, p.10). This awareness placed a great emphasis on changing adult mindsets that in its order, will impact instructional approaches at our school and lead to better student success. As we expect our teachers to differentiate instruction, we as leaders need to recognize this same practice when designing professional development. Our goal was and still is to equip teachers with the necessary resources to make students successful learners, as well as, build teacher capacity. Teachers' mindset plays a vital role in student achievement and we have observed first hand that students tend to mirror their teacher's energy, whether positive or negative. C. Dweck (2015) stated, "The growth mindset was intended to help close achievement gaps, not hide them." She stated, "It is about the truth about a student's current achievement and then, together with doing something about it, helping him or her become smarter."

Our participation in Cahn Study Sessions with Dr. Ellie Drago-Severson helped us to reflect on the need of teachers' choice, by choosing workshops related to their area(s) of concern that will affect their mindset: increase their engagement in professional development and improve accountability. In addition, we have developed an action plan to strategically improve teacher pedagogy via ongoing data analysis, workshops that

are specific to each teacher's needs, classroom inter-visitations, and consultations with outside practitioners, such as National Training Network, Generation Ready, Math Solutions, and on-going coaching from administrators.

Our work around mindset is focused on developing interpersonal skills amongst the staff to create a community of trust and reflective thinkers. After examining the iReady Math Assessments (Beginning and Middle of the Year) administered in October 2018 and January 2019, along with the Winter 2019 Summative Assessment, we adjusted our teacher professional development to focus on Mathematical Common Core Standards. Our focus was on mathematical standards that has historically and presently challenges our students, even though some gains in student performance were noted.

Based on our January (Middle of the Year) iReady Assessment students performing below grade level (level 1) went from 51% to 10%; students approaching grade level (level 2) went from 29% to 37%, and 19% of our third-grade students performed on grade level. The data also revealed the third-grade students in self-contained classrooms did not make gains; they remained below grade level (level 1). Thus, professional development was strategically outlined to help third grade teachers improve their skills in teaching mathematics to diverse learners.

Teachers were placed in different cohorts depending on their mathematical pedagogical needs. Each cohort was assigned to a consultant who work with teachers in specific instructional skill areas such as, questioning, engagement, and assessment. Growth in these areas was assessed during instructional rounds. The changes in the way professional development was delivered allowed us to reflect on our current problem of practice. If we want to engage teachers in a growth mindset and sustain academic growth, we need to reflect on how and why mindset change is needed. One way to do so, is by having reflective discussions with teachers about their instructional methodologies, as well as, their needs. Involvement of teachers in this effort is based on shifting their mindset.

Based on the observed pedagogical approaches and student data we targeted third grade teachers by embedding additional support both internally and externally; we posed additional inquiry questions: "What are the variables that cause our third-grade students to perform below city average in math despite targeted interventions?" Consultants then focused on planning lessons with teachers, unpacked the New York State Mathematical Standards, provided various mathematical strategies and skills students will encounter in their units of study.

We have become mindful of the time it will take to embark on this journey to make impactful gains for both teachers and students. We are committed to sustaining this project beyond our Cahn Fellowship year. With this new insight, we have included District, Community, and School Stakeholders as thought partners in this work who meet weekly with our third-grade teachers to review data for instructional planning. We have encountered several challenges as we navigate the problem of practice. Classroom teachers have experienced difficulty with teaching the Common Core Standards and keeping up with the math pacing calendar, which ensures that students learn the required standards before the New York State Exam. Teachers feel that the pacing calendar does not give them time to teach the standards. Observations suggest that teachers tend to teach a skill for lengthy periods of time and make it challenging to cover all the standards. They struggle with differentiation and small group instruction. Teachers have expressed that the way they learned math is different, and some have never seen or heard of the strategies dictated by the common core. Teachers want to teach how they learned, which in some cases does not address the "why" of math. Math tricks, drills, and memorization are what most teachers in the third-grade cohort define as effective teaching.

Some teachers struggle with teaching mathematics the way the Common Core Standard dictates (Concrete-Pictorial-Abstract). The observations conducted by the Administrative Team suggest that teachers are abstractly teaching mathematical skills rather than allowing students to investigate the skills by way of the eight Mathematical Practices:

- Make sense of problems and persevere in solving them
- Reason abstractly and quantitatively
- Construct viable arguments and critique the reasoning of others
- Model with mathematics
- Use appropriate tools strategically
- Attend to precision
- Look for and make use of structure
- Look for and express regularity in repeated reasoning

The Math Coach and staff developers from National Training Network, Generation Ready, and Math Solutions continue to work with individual teachers, as well as, grade level groups of teachers on adjusting their mindset and needed skills to improve Mathematical instruction. The support provided by the staff developers happens in the form of co-teaching, modeling, workshops, and observations with timely feedback and coaching. The school's administrative team has implemented the next steps in teacher observation reports which were provided by instructional rounds or feedback from math consultants. To make sure the next steps are evident, teachers are visited in the classroom regularly by the coach and the administrative team.

Although, the growth in this stage of the inquiry process is minimum, as measured by iReady data analysis, our recent iReady math data noted a 16% decrease in our Level 1 students. Patterns in teacher observations are showing a reduction in the areas of concern (Danielson Framework for Teaching Domain 3 Instruction) suggesting that we are moving in the right direction.

RESULTS

Teachers are trained in the Common Core Standards and continue to receive training on how to teach Mathematics. However, there is a need to address areas of concern further to maximize growth. My team and I have started to strategize ways to make improvements that will benefit our students learning path and advance teacher pedagogy. We plan to further our work around teacher mindset and see results through iReady Assessment data and the New York State's Annual Grade 3-5 Mathematics Math Test. Teacher and student performance have begun to shift towards growth. We have had an overall increase of 24% in our tier 1 level performance as measured by iReady Mathematics formative data.

Restructuring professional development and providing additional support to the third-grade teachers had an impact on the school culture overall and student growth is visible across the third-grade classrooms. We have developed a continuous cycle of reflection to improve pedagogy, which we now rely on regularly to promote immediate, actionable, and measurable feedback to teachers. The shift in teacher practice is evident in the form of formative Mathematics iReady Assessments and end of unit Mathematics exams.

Throughout and beyond this project, we will continue to analyze and monitor the data for both students (formative/summative). Teacher's pedagogical practices (Danielson Framework for Teaching) will be

analyzed quarterly. Our instructional leadership team will also continue to work on this type of inquiry by monitoring and tracking progress from data as part of our instructional culture.

Most importantly, my focus is on building capacity amongst my assistant principals, coaches, and teacher leaders. This is extremely important because “heavy lifting” cannot be done in isolation or by one person. Involving all stakeholders and learning together is what allows us all to become learners and leaders. Sharing the goals and setting benchmarks coupled with intensive progress monitoring is an absolute to gauge growth and progress in both teacher effectiveness and student performance outcomes. Curricula pacing, assessments, and professional development calendars are critical since they are time management tools that support the urgency given to our current level of performance in Mathematics. We want to continue to be “In Good Standing” as we have elevated our status from the New York State Department of Education “Focus” designation since 2016. This work could not have been done without the support of the following resources:

- Assistant Principals
- Coaches
- Teacher Leaders
- District Leaders
- Field Support Liaisons

ALLY REFLECTIONS

I remember the day Christina Villavicencio (Fellow) asked me to work with her on this Cahn project. I must be honest I was filled with a sense of duty that would foster a projection of yet another task that needed to be met. I never dreamed that this journey would change my thinking as a professional leader. It also fostered a deeper understanding of the type of leader that I strive to be. This thinking was further enhanced after I received my Neethling Brain Instruments (NBI) survey results. It clearly stated that I relied on a realistic approach to various situations and resolutions. In addition, I was looking to be more empathetic in daily interactions with staff. I always thought that to enact change in leadership, it must be readily received by all, or it simply will not take hold nor be internalized by your target audience.

I have come to accept and learn that real change in leadership is gradual and challenging. As I reflected on this process, I realized that my own biases, needs and expectations were fueling my core set of beliefs. I have since made a change in the way I conduct not only feedback but more importantly, how I intently listen to all possible thoughts. This has shown itself through my *Advance* observation write-ups and feedback meetings. Teacher feedback is centered not only on data but on the true meaning of developing teachers understanding of the “Why?” The “Why” being the reason we justify our decision making has been critical in my newfound discovery through Cahn Fellows Program.

The continued professional development and learning delivered by the presenters has led me to further reflect on my practices. Dr. Carolyn Rieh’s Professional Development session titled *Inquiry For Change: Systems Thinking for your School* was as if someone turned on the lights after walking through a dark forest. This professional development spoke the loudest to me, as it encouraged me to reflect on my current practice through a different leadership lens. I also learned that only through effective listening can one enact true change.

I want to thank my new Cahn Fellows family for pushing my thinking and allowing me to share my experiences with all of you. A special thank you to Dr. Barbara McKeon for encouraging and keeping me focused when things seemed challenging. To my Fellow Christina Villavicencio, you have often stated that we were

bound to share similar outcomes and expectations during this journey. I never doubted the journey, only the path I would take. Moreover, I truly owe that to your guidance and support. Thank you for taking me on your journey to help me shift my mindset.

FELLOWS REFLECTIONS

Leading a turn-around school in Far Rockaway for the last eight years has been challenging and at times left me feeling hopeless in my role as a school leader. As I conclude a full year's Cahn Fellows program, I reflect on the big ideas that have impacted the way I think, reflect, decide and embrace change. Leading constant change in a turnaround school may have an emotional and physical toll on the school leader and its team. However, through the Cahn Fellows academic and social emotional support, I was able to learn from theoretical practices such as "constructive-development theory" how to impact change with resiliency.

One of the most impactful learning sessions was during the first two weeks in July 2018 when I attended my Cahn Fellows colleagues, Professors Ellie Drago-Serverson and Carolyn Riehl's sessions. Dr. Serverson's session on Leading Adult Learning was a game changer for me. During this study, I was able to comprehend and learn about how adults process learning. This was based on the Professional Development session titled "Ways of Knowing." It allowed me to understand how I can best provide feedback to teachers in ways that makes sense within their "work, lives and relationships." This newly learned knowledge enhanced the way I delivered professional development to my staff and my cabinet. It also empowered me to be reflective in my interpersonal and intrapersonal skills which are critical when communicating my vision, mission and sense of urgency to lead change.

Another Cahn Fellows learning session that impacted my leadership lens was Dr. Riehl's "*Your Cahn Project: Using Inquiry to Leverage Leadership for Learning.*" Dr. Riehl's expertise in data analysis and strategies in developing a theory of action afforded me the opportunity to learn and utilize various protocols and tools to identify the problem of practice at P.S 197Q. For example, the "Why" (Fishbone) graphic organizer was one of the tools I used with my team that allowed me to get to the root-cause of the problem of practice.

The Gettysburg Summer Learning professional session at Gettysburg, Pennsylvania was a bonding session. It offered me the opportunity to share my professional leadership experience with my Cahn Fellows Family. During this session, I learned how one leader's uninformed decision negatively impacted many lives. Therefore, it is critically important to make an informed decision by listening to the members of one's team and using the most current data and information in order to have positive outcomes.

Overall, my most impactful experience as a Cahn Fellow was working closely with my Ally as a thought partner in our problem of practice. My Ally and I have been working together for the past eight years in different capacities. I met him as a teacher and currently he is the assistant principal of our school; a school in which he was once a scholar. Our Cahn Fellows Project became our precious PS. 197Q baby! Through this project, my Ally became more social-emotionally aware of his leadership skills as well as the teachers' social-emotional needs as adult learners. This preparation has showcased his leadership skills in his ability to lead staff through change.

ACKNOWLEDGEMENTS

I am incredibly grateful to the Cahn Fellows Project founder, Mr. Chuck Cahn for being courageous and fearlessly pursuing an advocacy role in supporting educators through the Cahn Fellows project at Columbia University. Mr. Cahn personally invested in what he values, which is improving public education by

empowering and supporting school leaders with rigorous professional development. He believes that if principals are supported, they will not abandon their roles as leaders. During our Gettysburg retreat, Mr. Cahn shared his story on how he began his work with the Cahn Fellows and it was here where he inspired us by asking, “Who are the three leaders you admire the most and who do you identify yourself with?” Thank you, Mr. Cahn, for asking this question and for taking the time to listen and engage us during the summer institute.

I also want to thank my Cahn Fellows colleagues, Lily Woo, who was my first email contact and who sent me the acceptance letter from the Cahn Fellows program. In addition, I am so thankful to my Columbia University professors, consultants, mentors and advisors in this transformational journey. Your support and honest conversations in challenging my leadership lens was very uplifting.

A special and warm thank you to my P.S. 197Q Third Grade Team, Math Coach and Ally. I couldn’t have completed this research without you. Thank you for learning and growing together in this reflective journey.

Lastly, I want to thank Dr. Barbara McKeon, my Cahn advisor for her tremendous patience, encouragement and for challenging my Ally and me during this year’s learning journey. I have expanded my learning curve and become a very reflective principal. I no longer see things at “face value.” Dr. McKeon has taught me to think deeper and to question “Why? But why do you think this?” Thank you for being very responsive to our calls, questions, inquiry and challenges.

I am ready to inspire, serve and continue the awesome work of supporting my scholars, teachers and school community. Moreover, I want to serve, mentor and assist future Cahn Fellows in their journey as ***Cahn Fellows for Distinguished Principals.***