



Strategies for Transformative Change

OFFICE OF COMMUNITY COLLEGE RESEARCH AND LEADERSHIP

Transformative Change Initiative Overview

The Transformative Change Initiative (TCI) is dedicated to assisting community colleges to scale-up innovations that improve student outcomes and program, organization, and system performance.

Transformative Change Definition

Raising the individual, organizational and system performance of community colleges to unprecedented levels without sacrificing their historic commitment to access and equity.

ACHIEVING SUSTAINABILITY THROUGH TARGETED CURRICULUM CHANGE

CUNY CareerPATH (CCP), co-managed by Kingsborough Community College and the University's Office of Academic Affairs, was comprised of six community colleges: Borough of Manhattan (BMCC), Bronx (BCC), Hostos (HCC), Kingsborough (KCC), LaGuardia (LaGCC), Queensborough (QCC), and two comprehensive colleges, College of Staten Island and New York City College of Technology (City Tech). With the award of a Round One TAACCCT grant, CCP aimed to support under- and unemployed workers' career advancement and successful college transition, respond to local industry needs, and build CUNY's capacity to serve non-traditional students by gender, race/ethnicity, and age. At Kingsborough, CUNY CareerPATH built a workforce training program out of existing credit courses to address the needs of students entering the TAACCCT-funded program.

STRATEGY DEFINITION: Integrated instruction

Integrated academic skills instruction was one of the core elements of the CareerPATH consortium that provided math, reading, writing, and English language skills instruction "contextualized" to occupational training. Its goal was to engage adult learners and accelerate their progress in college and careers. The focus of this brief is the integration of applied mathematics into a Culinary Arts program at Kingsborough Community College.



www.cuny.edu/careerpath

STRATEGY DEVELOPMENT AND EXPANSION

At the beginning of the CCP grant, faculty and employers recognized the need to emphasize quantitative reasoning skills in the new Culinary Arts workforce training program. KCC's academic skills instructor worked with a Culinary Arts instructor to identify key points in the curriculum where those skills could be strengthened. KCC's goal was to develop five to six problem sets that addressed key culinary concepts such as ratios, percentages, volume, and weight measures. The new problem sets were expanded to lesson plans used in the workforce training program. What started as a casual approach to improving the courses soon became a more formalized process so that teaching and learning were more consistent across the program.

Within two years of implementing the CCP grant, KCC became involved in a Round Three TAACCCT grant with the National Resiliency Consortium (NRC). The NRC (see sidebar) partnered with the Carnegie Foundation to integrate Quantway, a contextualized mathematics program developed by Carnegie. Because of students' success in developing math skills in the new contextualized Culinary Arts training program, the NRC team at KCC went back to the Culinary Arts faculty to examine Quantway methods for pedagogy and principles to incorporate into the newly contextualized, integrated math instruction. For those unfamiliar with Quantway, KCC faculty explained an example of its pedagogy is where an instructor poses a mathematical question to students in the context of the subject they are studying. Working in groups, the students identify the types of numbers they will need to answer the question (i.e. price, average size, a percentage, etc.). Then, students narrow the focus and address the specific question asked.

KCC's CareerPATH director explained, "We wanted our culinary students to be fluent in ratios and percentages - the language of mathematics in the culinary context. They need numbers to cook. It must be second nature and part of their culinary mindset."

Through the success of integrated mathematics into the two TAACCCT-funded workforce training culinary arts programs (CCP and NRC), KCC faculty recognized the value of the problem sets for their culinary program associate degree-seeking students. Though quantitative reasoning was addressed in several core culinary courses and generally students' math skills were strong, the AAS-degree program lacked the application of key principles in context. Working with the NRC team, many faculty who had also been a part of CCP, wrote lesson plans and developed a course proposal for a new credit-bearing course. According to Megan Seradsky, a Project Manager at the Center for Economic and Workforce Development (CEWD), "The new course is an authentic culinary arts learning experience. As a foundational course, students will learn culinary arts content, language, and practical kitchen skills. Included in this suite of learning objectives is the application of mathematics. We don't often think about it this way, but critical thinking and quantitative reasoning are two of the most basic and essential skill sets needed in the culinary arts field."



KCC Culinary Arts students practicing their skills.

SOME LESSONS LEARNED

One Size Does Not Fit All: The CareerPATH Model developed and implemented in the Round One TAACCCT grant provided CUNY a unique opportunity to partner across the city's five boroughs. Geographic proximity allowed for close professional development, shared resources, and peer support. Yet, dramatically different college cultures made it challenging to prescribe one model for the entire consortium.

Adopt and Adapt: Recognizing the role of local politics, CCP leadership developed a set of required, core components and worked with each college to implement them in ways that generated the greatest degree of campus buy-in. Integrated instruction was one of those components. While LaGuardia CC delivered integrated instruction via its NYBEST model (similar to iBEST, <https://www.sbctc.edu/colleges-staff/programs-services/i-best/>), others, like Kingsborough CC, delivered integrated instruction via a combination of co-teaching and stand-alone lessons in writing and math. KCC immediately saw the value of integrated math instruction to its Culinary Arts program in that students responded well, faculty appreciated the added support, and employers were happy to hire graduates with stronger math skills.

Sustain: Round One funding was a proof of concept; Round Three was an opportunity to leverage lessons learned and to take integrated instruction another step further. It has also provided a model for sustaining TAACCCT-funded work through curriculum change and an example of how an intervention created for a non-credit program informed the associate degree program in the same field.

The new course was approved in the first round of college curriculum review in Spring 2016 as a degree requirement to be taken in the students' first semester. Students entering in Fall 2016 will be required to take the new course; continuing students will be advised to enroll in the new course. Faculty are excited that students will have the opportunity to develop critical foundational skills early in their program of study, providing a base from which to build. Some faculty piloted problem sets in Spring 2016 and will continue them over the Summer term. Student and faculty feedback have prompted the curriculum developers to increase the rigor of some problem sets, creating additional opportunities to engage more academically advanced students. In Fall 2016, an academic skills instructor will serve as a faculty mentor to culinary faculty teaching the integrated course for the first time; culinary faculty, it turns out, suffer from math anxiety just like their students,

THE NORTHEAST RESILIENCY CONSORTIUM

The Northeast Resiliency Consortium (NRC) is comprised of seven community colleges in the Northeast and partnered with Achieving the Dream (ATD) and the Carnegie Foundation for the Advancement of Teaching. The NRC, led by Passaic County Community College (NJ), includes Kingsborough Community College (NY), along with five other community colleges in Massachusetts, Connecticut, New Jersey, and New York, all areas that have been recently affected by crises and natural disasters. This consortium formed to take strategic action to build a highly skilled and qualified workforce to help mitigate their communities' short- and long-term vulnerabilities and risks. (See also, "Creating Resiliency and Pathways to Opportunity," a TCI Strategy Brief featuring the Northeast Resiliency Consortium.)

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