

MAURICIO GONZALEZ

November 04, 2014

Having dedicated the early part of my professional career to conservation research, I have come to understand the vital role of applied science to help protect and restore our natural environment. Research, however, is limited in reach when it is relegated to the confines of universities and elite circles. By expanding participation to secondary students in the most powerful city in the world, science research is amplified morally and its success extends further in space and time. This is why I became a teacher in 2001 at the secondary level in the NYC Public School system.

Since becoming a teacher, though, I've become aware of an even larger problem in our social and educational structure – not only are most of our kids removed from real-world research but they are underrepresented in the structures of power and the fastest growing sectors of the economy (*i.e.* Science, Technology, Engineering, and Math). Political power and Science are the driving forces of our modern society. Today, most science graduates in US universities are foreign born. Our secondary schools have failed to become pipelines to universities due to a preoccupation with training, controlling, and testing rather than educating our kids. Schooling has disconnected minds from the realities faced in a complex, hyper-connected, and globalized 21st Century. Independent thinking, problem solving, creativity, and responsibility have been systematically removed from the public school curriculum. In my view, bringing back and enhancing these ideas in the form of Career and Technical Education is one of the most powerful ways to address the crises we're facing. Giving students the chance to solve real-world problems is the most important way to reconnect them with today's new economy and our democratic society. Fighting to change this tide has become another mission of mine.

Since 2010 I've been developing a Career and Technical Education Program of Study at the Urban Assembly N.Y. Harbor School. Specifically, I've developed a Science Research Program that develops inquiry and independent research skills in secondary students. My learner-centered approach gives students the responsibility to tackle real-world environmental problems. The research program is a pipeline to careers in STEM and has had greater than 90% graduation and college attendance rates. Our students have been involved in helping redesign Manhattan's edge to promote a healthier environment for local marine species and residents. We've created a voluntary citizen science team called the Harbor SEALS that monitors the water quality of the Hudson River Estuary year round. Our data, which is posted on-line for the public, is used to inform environmental restoration efforts such as the Billion Oyster Project which seeks to repopulate the Hudson River Estuary with the robust oyster reefs that once thrived there. Our students have gone on to study and work in the fields of environmental engineering, marine biology, marine law & policy, and other associated fields. Our school places dozens of students in internships each semester in the fields of marine technology and science. The work-based learning opportunities we give our students

prepares them for the 21st century. And, most importantly, they learn to think for themselves and become problem solvers.

In sum, helping to bridge access to positions of power and science through real-world environmental restoration projects for our youth is my plight as an educator. Until we succeed in this, our society, natural environment, and economy will continue to increase its risk of falling over the edge. I look forward to our future collaboration in a truly inclusive and democratic education process.