



BARD
HIGH SCHOOL • EARLY COLLEGE



Testimony Before the Governor's Committee on Education Reform
Presented by Juan Osorio, Bard High School Early College Class of 2003
October 16, 2012

Introduction:

Thank you for the opportunity to testify today. My name is Juan Osorio, and I am a member of the first class of Bard High School Early College, the Class of 2003. Today I am a graduate student in chemical engineering at Rutgers University, and I expect to complete my Ph.D. this coming summer. My luck in being admitted to Bard High School Early College in 2001 made my career in chemical engineering possible. I am here today to tell you a little bit about how my experiences at Bard High School Early College enabled me to afford an engineering degree and graduate work, and prepared me to be successful in obtaining great jobs in science and engineering. I urge you to include the expansion of early colleges as one of your key recommendations to the Governor for improving educational opportunities in New York State.

My experience at Bard High School Early College:

My father brought my sister and me to the United States from Colombia when I was almost 14 years old—ready to start 9th grade. He wanted us to have better opportunities after high school and college. If it had not been for Bard High School Early College, his dreams of better opportunities, and mine, would have been dashed. To make a long story short, I spoke little English when I arrived, and was assigned to an English as a Second Language program at the local high school. Everything that was taught in that program I had already learned in 6th and 7th grade at my school in Colombia. I worked nights on a janitorial crew to help my father with all of our moving and living expenses. At the end of 9th grade, my family and I moved to Brooklyn. I was assigned to attend South Shore High School, now closed. Even though I became part of the “Scholars” program there, my tenth grade year was also a waste—my English improved but even the Scholars program covered nothing that I hadn’t already learned in Colombia. I finished 10th grade with a 98% GPA without much effort and with scores in the Regents math exam of 98% and Spanish with 100%. That summer, while I was back in Colombia with family, my father received a postcard in the mail inviting 10th grade students to apply to a new school, Bard High School Early College. If accepted, I could start there in 11th grade, but instead of doing regular high school work, I could begin with college work instead, and graduate with an Associate in Arts degree worth 60 college credits at the end of 12th grade. This sounded like a wonderful opportunity, especially because I knew that it would be difficult for my father to afford sending me to college. Without any assurance that I would be accepted, I cut short my time in Colombia to return to interview for a spot at this new Bard High School Early College; truly, I would have done much more to take advantage of this great opportunity that was about to change my life.

The classes at BHSEC were really hard. After all, we were jumping right into college work. All of my classes were taught by real college professors and they were expecting real college work from us. For the first time since being in the U.S., I felt that I fit in and that I was actually learning more than simply improving my English. We were also able to choose our own classes to fulfill

A New York City Public School

Manhattan
525 East Houston Street • New York, NY 10002
Main office: 212.995.8470 • Admissions: 212.982.5024 • Fax: 212.777.4702
E-mail: bhsec@bard.edu • Web: www.bard.edu/bhsec

Queens
30-20 Thomson Avenue • Long Island City, NY 11101
Main office: 718.361.3133 • Admissions: 718.361.3133 x. 6913 • Fax: 718.361.6742
E-mail: bhsec@bard.edu • Web: www.bard.edu/bhsec



BARD
HIGH SCHOOL • EARLY COLLEGE



our requirements and this is how I discovered that I had a real talent for mathematics and science. I had to take college courses in both subjects. Taking physics, calculus, chemistry, more calculus, and more chemistry taught by great professors, not teachers, was an exhilarating experience. I started seeing the world in a scientific way. In physics, I studied the free fall of objects. I took a neuroscience course—when you are 16, it is truly amazing to learn about how the brain works. In a course on DNA, we were able to separate our own DNA from our saliva and do electrophoresis to study its structure. In that class, we took a trip to NYU Medical School and I met a full-time scientist for the first time. I realized that unlike scientists portrayed in the movies, real scientists were ‘normal’ people, and I could be one as well.

Besides taking math and science classes, I also took literature, history, music, and art classes. I never thought I would like these subjects until I had to engage in deep discussions about really interesting topics, learned about music, and learned how to draw someone that really looked like that person. The classes that required intensive reading and writing were harder for me, but I was able to succeed with the support of my professors and classmates. The skills I learned at Bard High School Early College—critical thinking and analysis, writing, and reading complicated texts—have helped me tremendously through my academic and professional career.

My classmates were from around New York City, and indeed, from around the world. In fact, BHSEC was the most diverse environment in which I have ever worked or studied, even in my graduate work. This diversity taught me much, both inside and outside the classroom, learning about people from many parts of the world, their cultures, their religions, and how each person had a different story about their lives. We were diverse in interests as well—some of us really enjoyed science and math, and others really enjoyed writing or philosophy. Professors and classmates were always willing to help and share their thoughts. There I also discovered my passion for teaching because I was able to teach math and chemistry to my own classmates while taking the same class.

While I was in my last year at BHSEC, I applied to colleges so that I could finish my undergraduate degree. I knew then that I wanted to become a chemical engineer because it combined all of my favorite subjects—chemistry, biology, physics and mathematics. With the help of the BHSEC staff, I applied to multiple colleges and decided to attend Polytechnic University, now NYU Polytechnic, since they gave me a great scholarship. Even better, Poly accepted more than one full year of BHSEC classes— 36 college credits. This saved my father and me one full year of college tuition worth more than \$26,000. If I had gone into a liberal arts program at one of the SUNY or CUNY schools or to any of the many liberal arts colleges, I could have transferred a full 60 college credits and saved 2 years of tuition. But I wanted to study chemical engineering and I wanted to do so at Poly. Because I could transfer with one full year of credits, I was able to graduate in three years, in 2006.

A New York City Public School

Manhattan

525 East Houston Street • New York, NY 10002

Main office: 212.995.8470 • Admissions: 212.982.5024 • Fax: 212.777.4702

E-mail: bhsec@bard.edu • Web: www.bard.edu/bhsec

Queens

30-20 Thomson Avenue • Long Island City, NY 11101

Main office: 718.361.3133 • Admissions: 718.361.3133 x. 6913 • Fax: 718.361.6742

E-mail: bhsec@bard.edu • Web: www.bard.edu/bhsec



Preparation for a STEM career:

As important as saving time and tuition, going to Bard High School Early College prepared me to succeed at college.

- Because I had already taken college classes, I knew what to expect from my professors and how much I would need to study and work in order to make the grade—BHSEC had set high expectations and expected us to live and work up to those expectations.
- At BHSEC, I had taken classes from teachers who were passionate about what they taught and wanted us to be passionate as well—they knew their subject and could answer our questions and feed our curiosities. It was my college science teachers at BHSEC who inspired me to become a scientist and to want to teach others. When I got to Poly, I already knew that I wanted to study chemical engineering. Many people start with something that they think they want to pursue but it turns out that they are not good at it or they don't like it.
- Many people who study engineering take more than the regular four years because classes are hard and they fail, but because of the preparation at BHSEC, I was able to complete the rest of my education in a timely manner and I know this was the case for many of BHSEC graduates. Indeed, there were 24 students in my program at Poly, but only 11 graduated on time. My ability to succeed in Poly's difficult engineering program is due to the preparation I obtained in BHSEC.
- Attending BHSEC helped me a great deal with my writing, and this is a skill that successful engineers must have.

After I graduated from Poly at the age of 20, I got a full time job with the New York City Department of Environmental Protection as a HazMat Specialist and responded to emergencies involving supposedly hazardous materials. But I knew I wanted to go back to school and obtain a Ph.D. in chemical engineering.

This coming summer, I will graduate with my Ph.D. During my studies, I've had a chance to work with many scientists, professors and teachers, but it all goes back to the labs in BHSEC where my scientific curiosity started. My experience at BHSEC continues to inspire me: because I had such great teachers there, I want to do postdoctoral work so that I can become a college professor, not only to do research but to teach. If more young people like myself are going to become interested in science and STEM careers, and can become successful in those difficult fields of study, then they have to be exposed to real scientists and passionate science teaching early—and early colleges can provide this opportunity.

A New York City Public School

Manhattan

525 East Houston Street • New York, NY 10002

Main office: 212.995.8470 • Admissions: 212.982.5024 • Fax: 212.777.4702

E-mail: bhsec@bard.edu • Web: www.bard.edu/bhsec

Queens

30-20 Thomson Avenue • Long Island City, NY 11101

Main office: 718.361.3133 • Admissions: 718.361.3133 x. 6913 • Fax: 718.361.6742

E-mail: bhsec@bard.edu • Web: www.bard.edu/bhsec



Why Early Colleges should be supported by New York State:

Attending an early college helped me succeed in obtaining my B.S. degree, and now in getting my Ph.D. Without the academic preparation I got at BHSEC, I would never have been able to take the courses that I took at Poly, or even dream about the work I'm doing now at Rutgers.

Attending an early college also helped my family and I afford my college education. I never could have afforded four full years of undergraduate work, nor would I have had the preparation to attend graduate school with a full fellowship.

Early colleges also save money for the state because students who attend early colleges don't have to take remedial classes once they get to college. Many of my classmates from the freshmen orientation at Poly had to take remedial classes before starting real engineering classes, got discouraged, and quit engineering, and others took a lot longer than 4 years to finish, wasting their TAP grants and other financial help as well as their own hard earned dollars.

More students across New York City and New York State should be given the opportunity to attend early colleges such as BHSEC: the BHSEC model helps prepare students to succeed in college and to graduate college more quickly, saving thousands of dollars.

My experience at BHSEC is not unique. Many of my classmates also completed their four year degrees in less than four years, and I am not the only Ph.D. candidate in a STEM field: there are other chemical engineers in my graduating class as well as doctors, dentists and pharmacologists. Other classmates have begun successful careers in marketing, publishing and journalism. A number have gone into education. Some have started their own businesses. Others are members of the New York City Police Department and the military. In short, BHSEC prepared us to become successful participants in our communities and in our economy.

What the Governor's Commission on Education can do:

The Governor's Commission on Education should recommend the following so that early colleges such as BHSEC can be supported and grow, and so that more students like me can get an important start on college and careers, saving students, families and New York State millions of dollars along the way:

1. Develop a funding mechanism for early colleges. While it costs more money to provide a BHSEC early college education and grant an A.A. degree to high school students than is provided by the per pupil funding through state and city aid, shifting funds towards early colleges should not require an increase in state support, but simply a breaking down of funding sources between aid to higher education and aid to secondary schools. Support proposals that have been made, such as the Early College bill passed by the New York State Senate (S 5647) that would provide funding to early colleges based on a formula of college credits taken and number of low income students served.
2. One of the keys to the success of BHSEC students is the development of a college culture within the schools from the first day of high school onward, with students learning to take

A New York City Public School



BARD
HIGH SCHOOL • EARLY COLLEGE



responsibility for their own learning and being challenged to think more deeply and broadly. To create this culture, to prepare students for college thinking from 9th grade on, and to ensure that the classes warrant college credit, BHSEC hires college-credentialed faculty to teach both high school and college classes. Almost 70% of my teachers at BHSEC possessed Ph.D.s in what they taught and taught in colleges prior to coming to BHSEC. They loved to teach and they loved teaching high school aged students. They knew and loved science and mathematics. However, no matter how experienced the teacher, or how credentialed academically, if that teacher is going to teach high school classes as well as college classes, the teacher is required under state law to be certified to teach the secondary school subject. Thus, even though I may have taught undergraduate seminars and classes, and worked in a variety of science and research settings, I would still have to take a NYS test in chemistry before I can legally teach in a high school setting. The NYS Regents have recently made it easier for scientists and mathematicians to obtain certification, but they still need to pass subject matter tests. These requirements are not only expensive, but make it difficult for schools such as BHSEC to hire talented faculty members to teach at both the high school and college level in early college schools. Why should I do all of that when I can get a job in the private sector or in another college? Again, barriers between higher education and secondary education must be broken down for early colleges to become sustainable and successful alternatives to the traditionally separate high school then college trajectory.

Thank you for the opportunity to testify today. I hope that you will consider my experience and help make early colleges available to more students across New York State.

A New York City Public School

Manhattan

525 East Houston Street • New York, NY 10002

Main office: 212.995.8470 • Admissions: 212.982.5024 • Fax: 212.777.4702

E-mail: bhsec@bard.edu • Web: www.bard.edu/bhsec

Queens

30-20 Thomson Avenue • Long Island City, NY 11101

Main office: 718.361.3133 • Admissions: 718.361.3133 x. 6913 • Fax: 718.361.6742

E-mail: bhsec@bard.edu • Web: www.bard.edu/bhsec