

# Gateway to Higher Education

## A Summary of:

**“Science and Technology Entry Program: 1999-2000 Final Report”** (2000) City University of New York Medical School. By Morton Slater and Elisabeth Iler.

**“Make It Possible for Students to Succeed and They Will: An Evaluation of the Gateway to Higher Education Program”**

(January 1997) Education Development Center. By Patricia B. Campbell, Ellen Wahl, Morton Slater, Elisabeth Iler, Babette Moeller, Harouna Ba, and Daniel Light.

### Focus

- Early Childhood
- Primary School
- Middle School
- ✓ Secondary School
- Postsecondary
- ✓ Extended Learning

## Overview

Started in 1986, Gateway to Higher Education is an intermediary organization that now supports a comprehensive four-year, secondary school program in 11 New York City high schools. The organization is administered through the City University of New York and it prepares students for higher education and for careers in science, medicine and technology. Gateway includes summer enrichment programs, Saturday Academies, tutoring, counseling, internships, college visits, cultural awareness activities, advanced laboratory work, SAT preparatory classes and required Advanced Placement courses.

## POPULATION

Gateway is aimed at students who are under-represented in mathematics, science and medical careers. To enter Gateway, students must score at least at the 50<sup>th</sup> percentile on New York City's Seventh Grade Math test and the Degrees of Reading Power test, have regular attendance, and generally have grades of 80 or better (on a 100-point scale). Since 1986, Gateway has served more than 3500 students. In the 1999-00 school year, the program served 801 students. In that year, 67% of the students were African American, 31% Latino, 1% Asian and 1% other. Nearly two thirds (62%) of the participating students were female. Through an analysis of students' zip codes and census data, the author of the 1997 evaluation determined that Gateway students come primarily from low-income or lower-middle income families. The racial/ethnic demographics of the program at the time of the 1997 study were as follows: 57% African American, 26% Latino, 12% Asian, 5% Native American, Caucasian and other.

### Key Findings

During the 1999-2000 school year, 137 Gateway students (all of the seniors and some juniors) took the SAT. Their average scores are reported in the table below and compared to national mean SAT scores from 2000. [See Table.]

By the spring of 2000, 97% of Gateway graduates had been accepted to four-year colleges for the following fall. Of these:

- ◆ Forty-one percent were accepted to SUNY or CUNY colleges.
- ◆ Twenty-five percent were accepted to Ivy League or “highly selective” schools.
- ◆ Thirty-four percent were accepted to “selective” colleges (as rated by Barron’s College Dictionary).

The 1997 Gateway evaluation reported course-taking, test-taking, standardized test scores and other measures of academic achievement for Gateway students compared to the overall New York City high school population, a comparison group of city students, and to subgroups.

Course-taking (1992 figures):

- ◆ Gateway students were much more likely to take advanced math and science courses than were US high school graduates in general (98% vs. 52% took “Math III”).
- ◆ Gateway students were more likely than US high school graduates to have taken chemistry (97% vs. 56%) and physics (83% vs. 25%).

*“Gateway requires students to engage in rigorous academic content and to avail themselves of ancillary opportunities such as internships, tutoring, and college visits. It provides guidance and resources (such as paying for the SAT) so that students stay on track to higher education.”*

—Education Development Center evaluators

- ◆ African American Gateway students were much more likely than all African American high school graduates to have taken chemistry (95% vs. 46%) and physics (90% vs. 18%).

Test-taking: (1997 Evaluation)

- ◆ Gateway students took the state-wide, Regents exam at a much higher rate than a matched comparison group of New York City high school students (e.g., 96% vs. 24% took the Chemistry Regents Exam; 76% vs. 14% took the Physics Regents Exam).
- ◆ Gateway students were more apt to take the SAT test (93% vs. 15% of the comparison group took the SAT at least once).

Standardized test scores (1993-94):

- ◆ Thirty-seven percent of Gateway students took the Biology AP test. Their mean score was 3.29, which was higher than the mean score of 2.98 for all Biology AP students and higher than the mean scores of 2.11 for African American students and 2.62 for Puerto Rican students.

Race/Ethnicity	Gateway SAT Averages (1999-2000)				National SAT Means (2000)		
	Number	Verbal	Math	Combined	Verbal	Math	Combined
African American	91	480	520	1000	434	426	860
Latino	42	500	530	1030	453	460	913
Asian	4	500	600	1100	499	565	1064
White	0	—	—	—	528	530	1058

- ◆ Gateway students' mean AP Chemistry score was 2, lower than the national mean of 2.86 and the mean score for Puerto Rican students (2.3), but at the same level as the mean AP Chemistry exam score for African Americans (2.02).

#### College Retention (1996):

- ◆ A 1996 survey of 330 Gateway alumni, administered by the program, revealed that 74% of the alumni had graduated or would graduate from four-year colleges or universities within five years. Only 8% of the respondents had

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dropped out of college. Fifty-nine percent of them remained in a science-related major or profession.

### Program Components

Each Gateway school has a coordinator and a team of teachers who stay with the students throughout their four years in high school. The program is based on a strong belief that high expectations for all students, a demanding curriculum and a strong support system can lead to student success. Though each high school has a slightly different Gateway initiative, the shared program components are:

- ◆ An extended school day, including a double period of mathematics or science with a laboratory component and after-school tutorials.
- ◆ An extended school year (11 months), including a month-long summer program for students entering the ninth grade and academic summer programs for juniors and seniors at high-level universities and research institutes.
- ◆ Classes composed solely of Gateway students, especially in mathematics and science, with a maximum enrollment of 25 students.
- ◆ Four years of regents-level science, mathematics, social science, foreign language courses and an average of three Advanced Placement courses for all Gateway students.
- ◆ The expectation that all Gateway students will take the SAT (and the program pays for the test).
- ◆ Information about college, beginning in the ninth grade, including an annual college fair, college visits, PSAT and SAT preparatory classes and seminars for parents.
- ◆ Enriching activities, including exposure to professionals in science, field trips to museums, the theater, opera and symphonies and after-school experiential internships.

In 1997, Gateway cost \$1,600 more per student per year than the mean New York City per pupil expenditure (mean not given in report).

### Contributing Factors

#### *Staff Qualifications*

Teachers for Gateway are carefully selected, based on their qualification to teach the assigned course, their teaching experience, their willingness to put in the time and effort required to push Gateway students and their ultimate belief that the students can succeed.

#### *Teacher Investment and Collaboration*

“The commitment above and beyond their contract that Gateway teachers invest, and the opportunity that teachers have to talk with each other and be part of a team of educators” is important for the program’s success, according to EDC evaluators.

**High Expectations**

According to the EDC evaluators, “High expectations for all students have been part of the rhetoric for several decades, [but] until recently, responsibility for success was still laid mainly on the student and barely on the system. Gateway was developed based on the assumption that responsibility for success needs to be equally shared by the student and the system.”

**Small Learning Community**

All of the participants in Gateway (students, teachers, and program administrators) talked about “the sense of connectedness they enjoy as part of a small entity within a large institution.”

**Leadership Continuity**

Gateway has had the same co-directors since it was founded in 1986, contributing to its consistent sense of purpose and mission.

**Community Partnerships**

Gateway has formed institutional partnerships with the Museum of Natural History, colleges, universities, medical schools and laboratories. For instance, a partnership with Cold Springs Harbor DNA Learning Center involves students in advanced scientific research.

**STUDY METHODOLOGY**

The 1999-2000 report was not a formal, independent evaluation, and it did not include a comparison group. Instead, the report focused on the achievement of Gateway students at various high schools, with special attention to how juniors and seniors in the program did on Regents’ tests, AP tests, college entrance examinations and in-college enrollment. In the 1997 evaluation, researchers compared outcomes for 136 Gateway students who had expected to graduate in 1993 (because they had baseline scores on seventh grade math and reading tests) to those of a comparison group of 136 non-Gateway students. These groups were matched according to age, gender, race/ethnicity and math and reading scores. They lived in neighborhoods with similar levels of poverty. Researchers also analyzed an existing database, conducted a series of interviews and focus groups with program participants and graduates, visited 5 Gateway high schools, interviewed college admissions staff and administered a survey to 1990 and 1991 Gateway graduates. They also compared SAT and Achievement test scores of Gateway students with national averages.

**EVALUATION & PROGRAM FUNDING**

The 1997 evaluation was funded by the Aaron Diamond Foundation. The Gateway program and the 1999-00 Final Report were funded by the City University of New York Medical School and the New York State Education Department. Through STEP, the New York State Department of Education funds 10% of the Gateway and requires an evaluative annual report.

**GEOGRAPHIC AREAS**

Gateway operates in 11 New York City public high schools, including: Adlai Stevenson High School, Bayard Rustin High School for the Humanities, Brooklyn Technical High School, Erasmus Hall Campus Magnet, Jamaica High School, John F. Kennedy High School, Port Richmond High School and others.

**CONTACT INFORMATION****Research Contacts**

Morton Slater and Elisabeth Iler, Directors  
Gateway to Higher Education  
94-50 159th Street  
Science Building, Room 112  
Jamaica, NY 11451  
Phone: 718.523.6301  
Fax: 718.523.6307  
[Emslate@aol.com](mailto:Emslate@aol.com)  
[LizIler@aol.com](mailto:LizIler@aol.com)