

Math Success for All: How to Help Minority Students Succeed

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Some Numbers from the National Center of Educational Statistics (NCES) <http://nces.ed.gov/>

U.S. population age 25-29 in the year 2000 that had a Bachelor's degree

- ☆ In the year 2000, 34% of Whites age 25-29 had a Bachelor's degree.
- ☆ In the year 2000, 18% of African Americans age 25-29 had a Bachelor's degree.
- ☆ In the year 2000, 10% of Hispanics age 25-29 had a Bachelor's degree.

Bachelor's Degrees in Mathematics

- ☆ In the year 2004, **9,639** of the **962,887** Bachelor's degrees awarded to **Whites** were in the mathematical sciences. (**1.000%** of all Bachelor's degrees were in math.)
- ☆ In the year 2004, **676** of the **105,165** Bachelor's degrees awarded to **Hispanics** were in the mathematical sciences. (**0.642%** of all Bachelor's degrees were in math.)
***This represents a gap of 377 students!**
- ☆ In the year 2004, **784** of the **122,618** Bachelor's degrees awarded to **African Americans** were in the mathematical sciences. (**0.639%** of all Bachelor's degrees were in math.)
***This represents a gap of 443 students!**

“Math illiteracy is not unique to Blacks the way the denial of the right to vote in Mississippi was. But it affects Blacks and other minorities much, much more intensely, making them the designated serfs of the information age just as the people that we worked with in the 1960s on the plantations were Mississippi's serfs then.”

[MOSES, ROBERT, *Radical Equations: Civil Rights from Mississippi to the Algebra Project*, Boston Beacon Press (2001)]

Minority Students are more under-prepared for college than their
White counterparts

2001 Math Scores on SAT

White, non-Hispanic: **531**

Mexican American: **458**

Black, non-Hispanic: **426**

Some of the reasons found in research for a lack of success for
minority students in mathematics:

1. Lack of self efficacy
2. Lack of peer support
3. Not asking for help
4. Lack of minority math role models

Some program components that have been found in research
literature to improve minority student success in mathematics

1. Peer support groups
2. Faculty interaction
3. Minority math role models
4. Academic support (tutoring)

According to the Community College Survey of Student Engagement
(CCSSE), these are the five benchmarks of effective educational
practices in community colleges.

<http://www.ccsse.org>

1. Active and collaborative learning
2. Student effort
3. Academic challenge
4. Student-faculty interaction
5. Support for learners

Some programs worth exploring

Emerson Minority Engineer Scholarship Program

St. Louis Community College

Tuition, academic support, monthly meetings: *role models, peer support, advising*

The Math Workshop Program

University of California Berkley

An honors program for first year college students. Nearly 80% of the student participants are African American and Hispanic. Mathematics students participate in a workshop that supplements their lecture. As part of this workshop, students spend about two hours twice a week in a group of 5-7 students working on problems together.

Fullilove, R. E., & Treisman, P. U. (1990). *Mathematics achievement among African American undergraduates at the University of California, Berkeley: An evaluation of the mathematics workshop*. *The Journal of Negro Education*, 59(3), 463-478.

Minority Engineering Program

A large land grant university in the Southeast

A program for minority students in Engineering. This is a one-year program for first-year African American engineering students. One component of the program is the pairing of each student with an upperclassman mentor.

Good, J., Halpin, Glennelle., & Halpin, Gerald. (2001). *Retaining black students in engineering: Do minority programs have a longitudinal impact*. *Journal of College Student Retention*, 3(4), 351- 365.

References:

MOSES, ROBERT, *Radical Equations: Civil Rights from Mississippi to the Algebra Project*, Boston: Beacon Press (2001).