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The Minority Student Challenge

Although yesterday's demagogues no longer bar the schoolhouse doors, the retreat from the crudest forms of educational discrimination has not automatically brought expected gains for minority students.

Nowhere are problems of access and opportunity more persistently acute than in graduate and professional study in science and technology. Blacks, Hispanics, and Native Americans make up 19 percent of the U.S. population but receive only 8 percent of doctoral degrees annually. Moreover, according to a 1983 survey supported by the Rockefeller Foundation,* the disciplines "in which the four minorities [Blacks, Hispanics, and Asian and Native Americans] are most severely underrepresented are engineering, biological science, and physical science and mathematics." The same investigation found that Blacks are proportionately in the shortest supply across the entire spectrum of quantitative degree curricula.

In the 1981-82 academic year, for example, 606 Blacks nationwide received doctorates in education, but only 20 took Ph.D.'s in engineering, 29 in the physical sciences, 6 in mathematics, and 1 in computer science. In the same year, Hispanics earned 132 doctorates in arts and humanities and 136 in the social sciences but only 33 in the physical sciences and 6 in mathematics.

The shocking numbers make it hard to avoid a dispiriting conclusion: that in graduate and professional education, as in so many other areas of American life, the facade of progress that has been erected in recent years actually masks the reality of sluggish change. Particularly as the United States confronts the challenging uncertainties of a high-tech future, minorities urgently need to increase their numbers on the national roster of scientists and professionals.

What can educators and policy-makers do to help? At a minimum, a two-pronged strategy is indicated.

First, for minorities already enrolled as undergraduates, we need energetic, well-organized programs to stimulate interest in professional schools and doctoral study in science, mathematics, and technology. Whenever necessary, such efforts must include programs to rectify high school deficiencies or gaps in the academic prerequisites for entry into these fields. Effective tutoring and developmental components will also ensure that less well-prepared students will be able to compete without harsh disadvantage and to meet rigorous standards without special dispensation.

Second, for younger minorities—those currently in elementary or the early years of secondary school—we need to discourage the frequent practice of routinely counseling many minority youths into vocational and trade curricula, as if they were unfit for more rigorous college choices. We also must interdict the "cycle of avoidance," in which lack of preparation in basic science and mathematics leads to a lack of interest, anxiety, and ultimately nonenrollment in those fields at the college level. Indeed, high schools and colleges must cooperate to develop academic and career paths in science and technology for promising minority students. To do that, we have to interest these youths during their early secondary years in high-demand professional and technical fields and to provide both special study options and financial incentives to take advantage of them.

Less than a year ago, Lieutenant Colonel Guy S. Bluford, Jr., became the first minority American to travel into space. Colonel Bluford's achievement appeared to affirm that minorities have entered the national mainstream—that their needs and priorities have climbed on the country's agenda even as the aptly named Challenger climbed into the sky.

But it is a long way from the back of the bus to the cockpit of a space shuttle. Until minorities close the "grad school gap" in scientific and professional education, the real challenge to the nation will remain unanswered.—CLIFTON R. WHARTON, JR., *chairman of the board, Rockefeller Foundation, and chancellor, State University of New York, Albany 12246*

*National Research Council, "Survey of earned doctorates" (Washington, D.C., 1983).