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Low-Income and Minority Students Needed in STEM Pipeline

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The front page of Sunday's *New York Times* featured a [story](#) entitled "Better Colleges Fail to Lure Talented Poor: Qualified But Unaware." The article centered on a new [analysis](#) by Caroline Hoxby of Stanford and Christine Avery of Harvard that found that the majority of low-income students who achieve superior grades and test scores don't even apply to the nation's 238 most selective colleges and universities. The article posited that this is one factor that contributes to economic inequality due to the significant difference between the average earnings of college graduates and non-college graduates.

The need is even more heightened when it comes to low-income and minority students pursuing careers in STEM (Science, Technology, Engineering, and Mathematics) fields. The Bureau of Labor [reported](#) that not only will there be more jobs over the next decade in STEM fields than non-STEM areas, but workers in STEM occupations have garnered 26 percent more in earnings than their counterparts in non-STEM fields. This was true even after taking gender, race, union status, location, and industry into account. Despite these figures the United States does not currently produce enough qualified workers to meet the demand for STEM employees. The current STEM pipeline is woefully insufficient.

One person who has had some success in cultivating a STEM pipeline for low-income and minority students is Dr. Moses Williams. Williams is the founder of the [STEMPREP Project](#) that has trained a diverse cadre of young people in STEM areas since 1990. Williams cites three primary reasons for his program's success: an early start model, longitudinal training continuum, and a multi-institutional approach. The early start model draws from the way that Olympic athletes are nurtured where young people who are gifted athletically are identified and put in a pipeline. STEMPREP seeks to find young people who are talented in STEM areas and put them in a pipeline.

STEMPREP has a longitudinal training continuum of ten years. Students begin in their 7th grade summer and come together every summer for ten years. Similar to athletes, they move through a longitudinal training continuum. The multi-institutional approach consists of the students receiving training in academia, government research laboratories, private research institutes, and industry internships. The students rotate through these four settings so that the experience is apprenticeship based and not just traditional schooling. Williams stated that "they go to work and they learn. They acquire a bank of skills along with theory." The program draws from a national pool and recruits students from as far west as Hawaii and as far east as the Virgin Islands and every state in between.

Washington, D.C.-based education policy expert Ray Anderson has been a strong advocate of Williams' STEMPREP model and wants to see it replicated and extended it the national HBCUs (Historically Black Colleges and Universities) and MSIs (Minority Serving Institutions). Anderson said

it's time for a 'start with the end in mind' approach to STEM education without tracking that fosters career development from the earliest stages of interest and aptitude, and provides support to a predictable output combined with parental support and an applied dedication to the science of

| *innovation that will inspire new ways of thinking for students to reach greater horizons.*

The STEM pipeline and issues of higher education awareness, access, and success will be discussed at an Education Forum hosted by [Education for a Better America](#) on April 5 at the Sheraton New York Hotel and Towers at 11:00am. The forum will feature a special plenary by U.S. Secretary of Education Arne Duncan and a panel that includes Harvard University W.E.B. Du Bois Institute National Advisory Board Chair Glenn Hutchins, White House Initiative for Educational Excellence for African-Americans Executive Director David J. Johns, Virginia Union University President Dr. Claude G. Perkins, Noted Author and Former Assistant U.S. Secretary of Education Diane Ravitch, and New York City Department of Education Chancellor Dennis Walcott. The forum is happening in conjunction with the National Action Network's National Convention that will take place from April 3 to April 6 in New York City.