



Everyday Settings & Family Activities

Culturally Responsive Project-Based Activity

Culturally responsive STEM math lab programs seek to increase underserved girls' interest and confidence in science and math.

1. LaShawnda Lindsay, Ph.D.'s *The Black Girls Create Project: A Pilot Culturally Responsive Informal STEM Learning Program 2018 – 2020*

Why do we need STEM programs that target female students, especially Black and Brown girls?

Trend data show that girls and women have made substantial gains in the last three decades in terms of educational equity (NCES, 2000). They are doing as well or better than their male peers on many indicators of educational achievement and attainment. However, they still lag their male peers in aspects of mathematics and science achievement and advancement toward, and attainment of, careers in science, technology, engineering and mathematics (STEM). Girls are also much less likely to major in science-related fields in college and less likely to complete undergraduate and graduate STEM degrees (Clewell, Thorpe & Anderson, 1992; Davis, et al., 1996; NSF, 2000). They comprise a disproportionately low percentage of the STEM workforce, earn less, and are less likely to hold high-level positions in STEM careers (Long, 2001; NSF, 2000).

Although women make up nearly half of the nation's total labor community, they represent just over a quarter of the STEM workforce (U.S. Census Bureau, 2013). Moreover, the 2013 census revealed that African Americans represent a mere 6% of STEM-related positions – a growth of only 4% in 40 years (Johnson, 2016, p. 1).

[WATCH THE VIDEO](#)

"Why does STEM matter to Blacks?"
from BLACK ISSUES FORUM
Season 2900, Episode 2903.



Math labs in schools provide support and enrichment in the area of mathematics, especially for Black and Brown girls.

SCHOOL LEADERS AND TEACHERS should offer female students opportunities to participate in various STEM activities to promote STEM careers through after-school programs. Math labs are integrated into core math classes such as algebra, geometry and calculus to make STEM career pathways accessible for girls. The integration of these programs into school improvement plans allows for funding of STEM projects.

TEACHERS "must have the opportunity to connect with research that assists in their understanding of the impact their instructional practices have on Black girls as it pertains to STEM education." In a positionality study, Pringle and colleagues (2012) reported that science and mathematics teachers often lack awareness of the long-term impacts of their practices on Black girls' personal and vocational pursuits. "When gender and skin color are the major factors determining who will do science, a considerable amount of scientific talent is lost" (Hanson, 2008, p. 6). To increase retention rates and participation of Black girls and women in the STEM disciplines, the culture of science and mathematics, as well as the educational training, must be changed to value girls, students of color and those from low-income households (Aud et al., 2010; George, Neal, Van Horne & Malcolm, 2001; Hanson, 2008; Hernandez-Gantes & Fletcher, 2013).