United States Senate

September 24, 2021

Mark Schneider
Director
Institute of Education Sciences
550 12th Street, SW
Washington, DC 20024

Sethuraman Panchanathan
Director
National Science Foundation
2415 Eisenhower Avenue
Alexandria, Virginia 22314

Dear Director Schneider and Director Panchanathan,

We write to learn how Congress can better support the work of the Institute of Education Sciences (IES) and the National Science Foundation (NSF) to increase access to high-quality data science education, so that all students can keep pace with our 21st century world.

Enhancing data science education will have significant benefits for our nation's citizenry and economy. Like reading, writing, and arithmetic, basic data literacy is vital for informed democratic participation. We also see employers increasingly demanding data science expertise. According to the Bureau of Labor Statistics, employment of computer and information research scientists is expected to grow 15 percent between 2019 to 2029, far exceeding the average growth rate of other occupations.

Currently, African Americans and Latinos occupy only six and seven percent of STEM jobs, respectively. It is essential that the federal government helps increase the quality and accessibility of data science education to ensure equity, foster an informed citizenry, and unlock the promise and potential of a generation of diverse data scientists who will help our society innovate. Moreover, as we learn more about how artificial intelligence algorithms may be coded with implicit biases, it is critical that we foster a diverse data science workforce that will work toward development of more equitable technologies.

We have seen a successful model of this already. In California, Los Angeles Unified School District and the University of California, Los Angeles partnered to implement an NSF-funded "Introduction to Data Science" curriculum in 2014. The course is designed to equip students with critical skills and knowledge, such as coding and media literacy, as well as to increase the number of students pursuing STEM careers, including historically underrepresented students. This curriculum has since expanded to school districts nationwide.

IES and NSF play key roles in the development and implementation of programs across disciplines. We appreciate your leadership and existing work on data science. To better understand and support your efforts moving forward, we ask that you respond to the following questions:

1. Describe any past, existing or planned efforts to enhance equitable access to data science education and data science careers, as well as any efforts to increase research in this field.

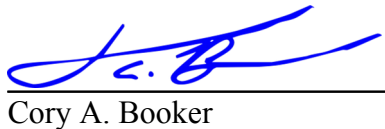2. What are significant barriers to advancing data science education initiatives or research?

3. What are successes, failures, or lessons learned from past efforts to advance innovative research in other subject areas?

4. What additional funding or resources are necessary to adequately support meaningful and coordinated research around data science education within IES and NSF? How would each entity use those additional resources?

Thank you for your attention to this request, and we look forward to your responses.
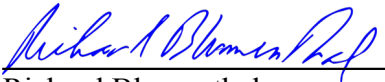
Sincerely,

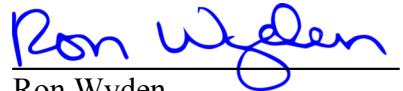Alex Padilla
United States Senator

Cory A. Booker
United States Senator

Jeffrey A. Merkley
United States Senator

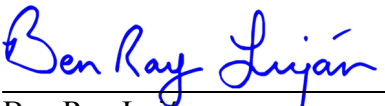Richard Blumenthal
United States Senator
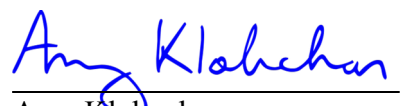
Ron Wyden
United States Senator

Sherrod Brown
United States Senator

Jacky Rosen
United States Senator

Ben Ray Luján
United States Senator

Amy Klobuchar
United States Senator

United States Senate

WASHINGTON, DC 20510

Elizabeth Warren
United States Senator