DEFINITIONS

For definitions of terms used in this section, see section 2 of Pub. L. 114–329, set out as a note under section 1862s of this title.

§ 1862s–3. Personnel oversight

(a) Conflicts of interest

The Director of the Foundation shall update the policy and procedure of the Foundation relating to conflicts of interest to improve documentation and management of any known conflict of interest of an individual on temporary assignment at the Foundation, including an individual on assignment under the Intergovernmental Personnel Act of 1970 (42 U.S.C. 4701 et seq.).

(b) Justifications

The Deputy Director of the Foundation shall submit annually to the appropriate committees of Congress written justification for each rotator employed under the Intergovernmental Personnel Act of 1970 (42 U.S.C. 4701 et seq.), or other rotator employed, by the Foundation that year that is paid at a rate that exceeds the maximum rate of pay for the Senior Executive Service, including, if applicable, the level of adjustment for the certified Senior Executive Service Performance Appraisal System.

(c) Report

Not later than 1 year after January 6, 2017, the Director of the Foundation shall submit to the appropriate committees of Congress a report on the Foundation's efforts to control costs associated with employing rotators, including the results of and participation in the Foundation's cost-sharing pilot program and the Foundation's progress in responding to the findings and implementing the recommendations of the Office of Inspector General of the Foundation related to the employment of rotators.

(Pub. L. 114–329, title I, §111, Jan. 6, 2017, 130 Stat. 2992.)

REFERENCES IN TEXT

The Intergovernmental Personnel Act of 1970, referred to in subsecs. (a) and (b), is Pub. L. 91–648, Jan. 5, 1971, 84 Stat. 1909, which is classified principally to chapter 62 (§4701 et seq.) of this title. For complete classification of this Act to the Code, see Short Title note set out under section 4701 of this title and Tables.

CODIFICATION

Section was enacted as part of the American Innovation and Competitiveness Act, and not as part of the National Science Foundation Act of 1950 which comprises this chapter.

DEFINITIONS

For definitions of terms used in this section, see section 2 of Pub. L. 114–329, set out as a note under section 1862s of this title.

§ 1862s–4. Brain Research through Advancing Innovative Neurotechnologies Initiative

(a) In general

The Foundation shall support research activities related to the interagency Brain Research through Advancing Innovative Neurotechnologies Initiative.

(b) Sense of Congress

It is the sense of Congress that the Foundation should work in conjunction with the Interagency Working Group on Neuroscience established by the National Science and Technology Council, Committee on Science to determine how to use the data infrastructure of the Foundation and other applicable Federal science agencies to help neuroscientists collect, standardize, manage, and analyze the large amounts of data that result from research attempting to understand how the brain functions.

(Pub. L. 114–329, title I, §117, Jan. 6, 2017, 130 Stat. 2995.)

CODIFICATION

Section was enacted as part of the American Innovation and Competitiveness Act, and not as part of the National Science Foundation Act of 1950 which comprises this chapter.

DEFINITIONS

For definitions of terms used in this section, see section 2 of Pub. L. 114–329, set out as a note under section 1862s of this title.

§ 1862s–5. Programs to expand STEM opportunities

(a) Findings

Congress makes the following findings:

(1) Economic projections by the Bureau of Labor Statistics indicate that by 2018, there could be 2,400,000 unfilled STEM jobs.

(2) Women represent slightly more than half the United States population, and projections indicate that 54 percent of the population will be a member of a racial or ethnic minority group by 2050.

(3) Despite representing half the population, women comprise only about 30 percent of STEM workers according to a 2015 report by the National Center for Science and Engineering Statistics.

(4) A 2014 National Center for Education Statistics study found that underrepresented populations leave the STEM fields at higher rates than their counterparts.

(5) The representation of women in STEM drops significantly at the faculty level. Overall, women hold only 25 percent of all tenured and tenure-track positions and 17 percent of full professor positions in STEM fields in our Nation's universities and 4-year colleges.

(6) Black and Hispanic faculty together hold about 6.5 percent of all tenured and tenure-track positions and 5 percent of full professor positions.

(7) Many of the numbers in the American Indian or Alaskan Native and Native Hawaiian or Other Pacific Islander categories for different faculty ranks were too small for the Foundation to report publicly without potentially compromising confidential information about the individuals being surveyed.

(b) Sense of Congress

It is the sense of Congress that—

(1) it is critical to our Nation's economic leadership and global competitiveness that the United States educate, train, and retain more scientists, engineers, and computer scientists;

(2) there is currently a disconnect between the availability of and growing demand for STEM-skilled workers;

(3) historically, underrepresented populations are the largest untapped STEM talent pools in the United States; and

(4) given the shifting demographic landscape, the United States should encourage full participation of individuals from underrepresented populations in STEM fields.

(c) Reaffirmation

The Director of the Foundation shall continue to support programs designed to broaden participation of underrepresented populations in STEM fields.

(d) Grants to broaden participation

(1) In general

The Director of the Foundation shall award grants on a competitive, merit-reviewed basis, to eligible entities to increase the participation of underrepresented populations in STEM fields, including individuals identified in section 1885a or section 1885b of this title.

(2) Center of excellence

(A) In general

Grants awarded under this subsection may include grants for the establishment of a Center of Excellence to collect, maintain, and disseminate information to increase participation of underrepresented populations in STEM fields.

(B) Purpose

The purpose of a Center of Excellence under this subsection is to promote diversity in STEM fields by building on the success of the INCLUDES programs, providing technical assistance, maintaining best practices, and providing related training at federally funded academic institutions.

(3) Research

As a component of improving participation of women in STEM fields, research funded by a grant under this subsection may include research on—

(A) the role of teacher training and professional development, including effective incentive structures to encourage teachers to participate in such training and professional development, in encouraging or discouraging female students in prekindergarten through elementary school from participating in STEM activities;

(B) the role of teachers in shaping perceptions of STEM in female students in prekindergarten through elementary school and discouraging such students from participating in STEM activities;

(C) the role of other facets of the learning environment on the willingness of female students in prekindergarten through elementary school to participate in STEM activities, including learning materials and textbooks, seating arrangements, use of media and technology, classroom culture, and composition of students during group work;

(D) the role of parents and other caregivers in encouraging or discouraging female students in prekindergarten through elementary school from participating in STEM activities;

(E) the types of STEM activities that encourage greater participation by female students in prekindergarten through elementary school;

(F) the role of mentorship and best practices in finding and utilizing mentors; and

(G) the role of informal and after-school STEM learning opportunities on the perception of and participation in STEM activities of female students in prekindergarten through elementary school.

(e) Accountability and dissemination

(1) Evaluation

(A) In general

Not later than 5 years after January 6, 2017, the Director of the Foundation shall evaluate the grants provided under this section.

(B) Requirements

In conducting the evaluation under subparagraph (A), the Director shall—

(i) use a common set of benchmarks and assessment tools to identify best practices and materials developed or demonstrated by the research; and

(ii) to the extent practicable, combine the research resulting from the grant activity under subsection (e) with the current research on serving underrepresented students in grades kindergarten through 8.

(2) Report on evaluations

Not later than 180 days after the completion of the evaluation under paragraph (1), the Director of the Foundation shall submit to the appropriate committees of Congress and make widely available to the public a report that includes—

(A) the results of the evaluation; and

(B) any recommendations for administrative and legislative action that could optimize the effectiveness of the program.

(f) Coordination

In carrying out this section, the Director of the Foundation shall consult and cooperate with the programs and policies of other relevant Federal agencies to avoid duplication with and enhance the effectiveness of the program under this section.

(Pub. L. 114–329, title III, §305, Jan. 6, 2017, 130 Stat. 3007; Pub. L. 116–102, §4, Dec. 24, 2019, 133 Stat. 3263.)

CODIFICATION

Section was enacted as part of the American Innovation and Competitiveness Act, and not as part of the National Science Foundation Act of 1950 which comprises this chapter.

AMENDMENTS

2019—Subsec. (d)(3). Pub. L. 116–102 added par. (3).

FINDINGS

Pub. L. 116–102, §2, Dec. 24, 2019, 133 Stat. 3263, provided that: ''Congress finds the following:

''(1) The National Science Foundation is a large investor in STEM education and plays a key role in setting research and policy agendas.

''(2) While studies have found that children who engage in scientific activities from an early age develop positive attitudes toward science and are more likely to pursue STEM expertise and careers later on, the majority of current research focuses on increasing STEM opportunities for middle school-aged children and older.

''(3) Women remain widely underrepresented in the STEM workforce, and this disparity extends down through all levels of education.''

SUPPORTING EARLY CHILDHOOD AND ELEMENTARY STEM EDUCATION RESEARCH

Pub. L. 116–102, § 3, Dec. 24, 2019, 133 Stat. 3263, provided that: ''In awarding grants under the Discovery Research PreK–12 program, the Director of the National Science Foundation shall consider the age distribution of a STEM education research and development project to improve the focus of research and development on elementary and prekindergarten education.''

DEFINITIONS

For definitions of terms used in this section, see section 2 of Pub. L. 114–329, set out as a note under section 1862s of this title.

§ 1862s–6. Presidential awards for excellence in STEM mentoring

(a) In general

The Director of the Foundation shall continue to administer awards on behalf of the Office of Science and Technology Policy to recognize outstanding mentoring in STEM fields.

(b) Annual award recipients

The Director of the Foundation shall provide Congress with a list of award recipients, including the name, institution, and a brief synopsis of the impact of the mentoring efforts.

(Pub. L. 114–329, title III, § 307, Jan. 6, 2017, 130 Stat. 3010.)

CODIFICATION

Section was enacted as part of the American Innovation and Competitiveness Act, and not as part of the National Science Foundation Act of 1950 which comprises this chapter.

DEFINITIONS

For definitions of terms used in this section, see section 2 of Pub. L. 114–329, set out as a note under section 1862s of this title.

PRESIDENTIAL AWARDS FOR EDUCATORS AND MENTORS IN FIELDS RELATING TO CYBERSECURITY

Pub. L. 116–283, div. H, title XCIV, § 9405(d), Jan. 1, 2021, 134 Stat. 4812, provided that: ''The Director of the National Science Foundation shall ensure that educators and mentors in fields relating to cybersecurity can be considered for—

''(1) Presidential Awards for Excellence in Mathematics and Science Teaching made under section 117 of the National Science Foundation Authorization Act of 1988 (42 U.S.C. 1881b); and

''(2) Presidential Awards for Excellence in STEM Mentoring administered under section 307 of the American Innovation and Competitiveness Act (42 U.S.C. 1862s–6).''

§ 1862s–7. Computer science education research

(a) Findings

Congress finds that as the lead Federal agency for building the research knowledge base for computer science education, the Foundation is well positioned to make investments that will accelerate ongoing efforts to enable rigorous and engaging computer science throughout the Nation as an integral part of STEM education.

(b) Grant program

(1) In general

The Director of the Foundation shall award grants to eligible entities to research computer science and cybersecurity education and computational thinking.

(2) Research

The research described in paragraph (1) may include the development or adaptation, piloting or full implementation, and testing of—

(A) models of preservice preparation for teachers who will teach computer science and computational thinking;

(B) scalable and sustainable models of professional development and ongoing support for the teachers described in subparagraph (A);

(C) tools and models for teaching and learning aimed at supporting student success and inclusion in computing within and across diverse populations, particularly poor, rural, and tribal populations and other populations that have been historically underrepresented in computer science and STEM fields;

(D) high-quality learning opportunities for teaching computer science and, especially in poor, rural, or tribal schools at the elementary school and middle school levels, for integrating computational thinking into STEM teaching and learning; and

(E) tools and models for the integration of cybersecurity and other interdisciplinary efforts into computer science education and computational thinking at secondary and postsecondary levels of education.

(3) Uses of funds

The tools and models described in paragraph (2)(C) may include—

(A) offering training and professional development programs, including summer or academic year institutes or workshops, designed to strengthen the capabilities of prekindergarten and elementary school teachers and to familiarize such teachers with the role of bias against female students in the classroom;

(B) offering innovative pre-service and in-service programs that instruct teachers on female-inclusive practices for teaching computing concepts;

(C) developing distance learning programs for teachers or students, including developing curricular materials, play-based computing activities, and other resources for the in-service professional development of teachers that are made available to teachers through the Internet;

(D) developing or adapting prekindergarten and elementary school computer science curricular materials that incorporate contemporary research on the science of learning, particularly with respect to female inclusion;