

§ 1862p-15. Twenty-first century graduate education

(a) In general

The Director shall award grants, on a competitive, merit-reviewed basis, to institutions of higher education to implement or expand research-based reforms in master's and doctoral level STEM education that emphasize preparation for diverse careers utilizing STEM degrees, including at diverse types of institutions of higher education, in industry, and at government agencies and research laboratories.

(b) Uses of funds

Activities supported by grants under this section may include—

(1) creation of multidisciplinary or interdisciplinary courses or programs for the purpose of improved student instruction and research in STEM;

(2) expansion of graduate STEM research opportunities to include interdisciplinary research opportunities and research opportunities in industry, at Federal laboratories, and at international research institutions or research sites;

(3) development and implementation of future faculty training programs focused on improved instruction, mentoring, assessment of student learning, and support of undergraduate STEM students;

(4) support and training for graduate students to participate in instructional activities beyond the traditional teaching assistantship, and especially as part of ongoing educational reform efforts, including at pre-K-12 schools, and primarily undergraduate institutions;

(5) creation, improvement, or expansion of innovative graduate programs such as science master's degree programs;

(6) development and implementation of seminars, workshops, and other professional development activities that increase the ability of graduate students to engage in innovation, technology transfer, and entrepreneurship;

(7) development and implementation of seminars, workshops, and other professional development activities that increase the ability of graduate students to effectively communicate their research findings to technical audiences outside of their own discipline and to nontechnical audiences;

(8) expansion of successful STEM reform efforts beyond a single academic unit to other STEM academic units within an institution or to comparable academic units at other institutions; and

(9) research on teaching and learning of STEM at the graduate level related to the proposed reform effort, including assessment and evaluation of the proposed reform activities and research on scalability and sustainability of approaches to reform.

(c) Partnership

An institution of higher education may partner with one or more other nonprofit education or research organizations, including scientific and engineering societies, for the purposes of carrying out the activities authorized under this section.

(d) Selection process

(1) Applications

An institution of higher education seeking a grant under this section shall submit an application to the Director at such time, in such manner, and containing such information as the Director may require. The application shall include, at a minimum—

(A) a description of the proposed reform effort;

(B) in the case of applications that propose an expansion of a previously implemented reform effort at the applicant's institution or at other institutions, a description of the previously implemented reform effort;

(C) evidence of institutional support for, and commitment to, the proposed reform effort, including long-term commitment to implement successful strategies from the current reform effort beyond the academic unit or units included in the grant proposal or to disseminate successful strategies to other institutions; and

(D) a description of the plans for assessment and evaluation of the grant proposed reform activities.

(2) Review of applications

In selecting grant recipients under this section, the Director shall consider at a minimum—

(A) the likelihood of success in undertaking the proposed effort at the institution submitting the application, including the extent to which the faculty, staff, and administrators of the institution are committed to making the proposed institutional reform a priority of the participating academic unit or units;

(B) the degree to which the proposed reform will contribute to change in institutional culture and policy such that a greater value is placed on preparing graduate students for diverse careers utilizing STEM degrees;

(C) the likelihood that the institution will sustain or expand the reform beyond the period of the grant; and

(D) the degree to which scholarly assessment and evaluation plans are included in the design of the reform effort.

(Pub. L. 111-358, title V, § 527, Jan. 4, 2011, 124 Stat. 4020.)

CODIFICATION

Section was enacted as part of the America COMPETES Reauthorization Act of 2010, also known as the America Creating Opportunities to Meaningfully Promote Excellence in Technology, Education, and Science Reauthorization Act of 2010, and also as part of the National Science Foundation Authorization Act of 2010, 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. 111-358, set out as a note under section 6621 of this title, and section 502 of Pub. L. 111-358, set out as a note under section 1862p of this title.

§ 1862q. Informal STEM education**(a) Grants**

The Director of the National Science Foundation, through the Directorate for Education and Human Resources, shall continue to award competitive, merit-reviewed grants to support—

- (1) research and development of innovative out-of-school STEM learning and emerging STEM learning environments in order to improve STEM learning outcomes and engagement in STEM;
- (2) research that advances the field of informal STEM education; and
- (3) a national partnership of institutions involved in informal STEM learning.

(b) Uses of funds

Activities supported by grants under this section may encompass a single STEM discipline, multiple STEM disciplines, or integrative STEM initiatives and shall include—

- (1) research and development that improves our understanding of learning and engagement in informal environments, including the role of informal environments in broadening participation in STEM;
- (2) design and testing of innovative STEM learning models, programs, and other resources for informal learning environments to improve STEM learning outcomes and increase engagement for K–12 students, K–12 teachers, and the general public, including design and testing of the scalability of models, programs, and other resources;
- (3) fostering on-going partnerships between institutions involved in informal STEM learning, institutions of higher education, and education research centers; and
- (4) developing, and making available informal STEM education activities and educational materials.

(Pub. L. 114–59, §3, Oct. 7, 2015, 129 Stat. 540; Pub. L. 114–329, title III, §311, Jan. 6, 2017, 130 Stat. 3013.)

CODIFICATION

Section was enacted as part of the STEM Education Act of 2015, and not as part of the National Science Foundation Act of 1950 which comprises this chapter.

AMENDMENTS

2017—Subsec. (a)(3). Pub. L. 114–329, §311(a), added par. (3).

Subsec. (b)(3), (4). Pub. L. 114–329, §311(b), added pars. (3) and (4).

§ 1862r. Research in disabilities education**(a) Program**

Nothing in this section and section 1862r–1 of this title alters the National Science Foundation’s Research in Disabilities Education program for fundamental and implementation research about learners (of all ages) with disabilities, including dyslexia, in science, technology, engineering, and mathematics (STEM). The National Science Foundation shall continue to encourage efforts to understand and address disability-based differences in STEM education and workforce participation, including differences for dyslexic learners.

(b) Line item

The Director of the National Science Foundation shall include the amount requested for the Research in Disabilities Education program in the Foundation’s annual congressional budget justification.

(Pub. L. 114–124, §3, Feb. 18, 2016, 130 Stat. 120.)

CODIFICATION

Section was enacted as part of the Research Excellence and Advancements for Dyslexia Act or READ Act, and not as part of the National Science Foundation Act of 1950 which comprises this chapter.

FINDINGS

Pub. L. 114–124, §2, Feb. 18, 2016, 130 Stat. 120, provided that: “The Congress finds the following:

“(1) As many as 1 out of 6, or 8,500,000, American school children may have dyslexia.

“(2) Since 1975, dyslexia has been included in the list of qualifying learning disabilities under the Education for All Handicapped Children Act of 1975 [see Short Title of 1975 Amendment note set out under section 1400 of Title 20, Education] and the Individuals with Disabilities Education Act [20 U.S.C. 1400 et seq.]”

§ 1862r–1. Dyslexia**(a) In general**

Consistent with subsection (c), the National Science Foundation shall support multi-directorate, merit-reviewed, and competitively awarded research on the science of specific learning disability, including dyslexia, such as research on the early identification of children and students with dyslexia, professional development for teachers and administrators of students with dyslexia, curricula and educational tools needed for children with dyslexia, and implementation and scaling of successful models of dyslexia intervention. Research supported under this subsection shall be conducted with the goal of practical application.

(b) Awards

To promote development of early career researchers, in awarding funds under subsection (a) the National Science Foundation shall prioritize applications for funding submitted by early career researchers.

(c) Coordination

To prevent unnecessary duplication of research, activities under this this section and section 1862r of this title shall be coordinated with similar activities supported by other Federal agencies, including research funded by the Institute of Education Sciences and the National Institutes of Health.

(d) Funding

The National Science Foundation shall devote not less than \$5,000,000 to research described in subsection (a), which shall include not less than \$2,500,000 for research on the science of dyslexia, for each of fiscal years 2017 through 2021, subject to the availability of appropriations, to come from amounts made available for the Research and Related Activities account or the Education and Human Resources Directorate under subsection (e). This section shall be carried out using funds otherwise appropriated by law after February 18, 2016.