

(2) improve secondary school and post-secondary curricula in mathematics and science;

(3) improve the educational opportunities of postsecondary students by creating comprehensive articulation agreements and planning between 2-year and 4-year institutions; and

(4) promote outreach to secondary schools to improve mathematics and science instruction.

(Pub. L. 102-476, §2, Oct. 23, 1992, 106 Stat. 2297.)

#### REFERENCES IN TEXT

Sections 1862h to 1862j of this title, referred to in subsec. (b), was in the original "this Act", meaning Pub. L. 102-476, Oct. 23, 1992, 106 Stat. 2297, known as the Scientific and Advanced-Technology Act of 1992, which enacted this section and sections 1862i and 1862j of this title and amended section 1862 of this title. For complete classification of this Act to the Code, see Short Title of 1992 Amendment note set out under section 1861 of this title and Tables.

#### CODIFICATION

Section was enacted as part of the Scientific and Advanced-Technology Act of 1992, and not as part of the National Science Foundation Act of 1950 which comprises this chapter.

### § 1862i. Scientific and technical education

#### (a) National advanced scientific and technical education program

The Director of the National Science Foundation (hereafter in sections 1862h to 1862j of this title referred to as the "Director") shall award grants to associate-degree-granting colleges, and consortia thereof, to assist them in providing education in advanced-technology fields, and to improve the quality of their core education courses in science and mathematics. The grant program shall place emphasis on the needs of students who have been in the workforce (including work in the home), and shall be designed to strengthen and expand the scientific and technical education and training capabilities of associate-degree-granting colleges through such methods as—

(1) the development of model instructional programs in advanced-technology fields and in core science and mathematics courses;

(2) the professional development of faculty and instructors, both full- and part-time, who provide instruction in science, mathematics, and advanced-technology fields;

(3) the establishment of innovative partnership arrangements that—

(A) involve associate-degree-granting colleges and other appropriate public and private sector entities,<sup>1</sup>

(B) provide for private sector donations, faculty opportunities to have short-term assignments with industry, sharing of program costs, equipment loans, and the cooperative use of laboratories, plants, and other facilities, and provision for state-of-the-art work experience opportunities for students enrolled in such programs; and

(C) encourage participation of individuals identified in section 1885a or 1885b of this title;

(4) the acquisition of state-of-the-art instrumentation essential to programs designed to prepare and upgrade students in scientific and advanced-technology fields; and

(5) the development and dissemination of instructional materials in support of improving the advanced scientific and technical education and training capabilities of associate-degree-granting colleges, including programs for students who are not pursuing a science degree.

#### (b) National centers of scientific and technical education

The Director shall award grants for the establishment of centers of excellence, not to exceed 10 in number, among associate-degree-granting colleges. Centers shall meet one or both of the following criteria:

(1) Exceptional instructional programs in advanced-technology fields.

(2) Excellence in undergraduate education in mathematics and science.

The centers shall serve as national and regional clearinghouses and models for the benefit of both colleges and secondary schools, and shall provide seminars and programs to disseminate model curricula and model teaching methods and instructional materials to other associate-degree-granting colleges in the geographic region served by the center.

#### (c) Articulation partnerships

##### (1) Partnership grants

(A) The Director shall make grants to eligible partnerships to encourage students to pursue bachelor degrees in mathematics, science, engineering, or technology, and to assist students pursuing bachelor degrees in mathematics, science, engineering, or technology to make the transition from associate-degree-granting colleges to bachelor-degree-granting institutions, through such means as—

(i) examining curricula to ensure that academic credit earned at the associate-degree-granting college is transferable to bachelor-degree-granting institutions;

(ii) informing teachers from the associate-degree-granting college on the specific requirements of courses at the bachelor-degree-granting institution; and

(iii) providing summer educational programs for students from the associate-degree-granting college to encourage such students' subsequent matriculation at bachelor-degree-granting institutions.

(B) Each eligible partnership receiving a grant under this paragraph shall, at a minimum—

(i) counsel students, including students who have been in the workforce (including work in the home), about the requirements and course offerings of the bachelor-degree-granting institution;

(ii) conduct workshops and orientation sessions to ensure that students are familiar with programs, including laboratories and financial aid programs, at the bachelor-degree-granting institution;

(iii) provide students with research experiences at bachelor's-degree-granting institu-

<sup>1</sup> So in original. The comma probably should be a semicolon.

tions participating in the partnership, including stipend support for students participating in summer programs; and

(iv) provide faculty mentors for students participating in activities under clause (iii), including summer salary support for faculty mentors.

Funds used by eligible partnerships to carry out clauses (i) and (ii) shall be from non-Federal sources. In-cash and in-kind resources used by eligible partnerships to carry out clauses (i) and (ii) shall not be considered to be contributions for purposes of applying subsection (f)(3).

(C) Any institution participating in a partnership that receives a grant under this paragraph shall be ineligible to receive assistance under part B of title I of the Higher Education Act of 1965 [20 U.S.C. 1011 et seq.] for the duration of the grant received under this paragraph.

### **(2) Outreach grants**

The Director shall make grants to associate-degree-granting colleges with outstanding mathematics and science programs to strengthen relationships with secondary schools in the community served by the college by improving mathematics and science education and encouraging the interest and aptitude of secondary school students for careers in science and advanced-technology fields through such means as developing agreements with local educational agencies to enable students to satisfy entrance and course requirements at the associate-degree-granting college.

### **(3) Mentor training grants**

The Director shall—

(A) establish a program to encourage and make grants available to institutions of higher education that award associate degrees to recruit and train individuals from the fields of science, technology, engineering, and mathematics to mentor students who are described in section 1885a or 1885b of this title in order to assist those students in identifying, qualifying for, and entering higher-paying technical jobs in those fields; and

(B) make grants available to associate-degree-granting colleges to carry out the program identified in subsection<sup>2</sup> (A).

### **(d) Coordination with other Federal departments**

In carrying out this section, the Director shall consult, cooperate, and coordinate, to enhance program effectiveness and to avoid duplication, with the programs and policies of other relevant Federal agencies. In carrying out subsection (c), the Director shall coordinate activities with programs receiving assistance under part B of title I of the Higher Education Act of 1965 [20 U.S.C. 1011 et seq.].

### **(e) Limitation on funding**

To qualify for a grant under this section, an associate-degree-granting college, or consortium thereof, shall provide assurances adequate to

the Director that it will not decrease its level of spending of funds from non-Federal sources on advanced scientific and technical education and training programs.

### **(f) Functions of Director**

In carrying out sections 1862h to 1862j of this title, the Director shall—

(1) award grants on a competitive, merit basis;

(2) ensure an equitable geographic distribution of grant awards;

(3) ensure that an applicant for a grant awarded under subsection (a), (b), or (c)(1) will make an in-cash or in-kind contribution in an amount equal to at least 25 percent of the cost of the program, and for a grant awarded under subsection (c)(2) will make an in-cash or in-kind contribution in an amount at least equal to the amount of the grant award;

(4) establish and maintain a readily accessible inventory of the programs assisted under sections 1862h to 1862j of this title; and

(5) designate an officer of the National Science Foundation to serve as a liaison with associate-degree-granting institutions for the purpose of enhancing the role of such institutions in the activities of the Foundation.

### **(g) Definitions**

As used in this section—

(1) the term “advanced-technology” includes advanced technical activities such as the modernization, miniaturization, integration, and computerization of electronic, hydraulic, pneumatic, laser, nuclear, chemical, telecommunication, fiber optic, robotic, and other technological applications to enhance productivity improvements in manufacturing, communication, transportation, commercial, and similar economic and national security activities;

(2) the term “associate-degree-granting college” means an institution of higher education (as determined under section 101 of the Higher Education Act of 1965 [20 U.S.C. 1001]) that—

(A) is a nonprofit institution that offers a 2-year associate-degree program or a 2-year certificate program; or

(B) is a proprietary institution that offers a 2-year associate-degree program;

(3) the term “bachelor-degree-granting institution” means an institution of higher education (as determined under section 101 of the Higher Education Act of 1965 [20 U.S.C. 1001]) that offers a baccalaureate degree program;

(4) the term “eligible partnership” means one or more associate-degree-granting colleges in partnership with one or more separate bachelor-degree-granting institutions; and

(5) the term “local educational agency” has the meaning given such term in section 2891(12)<sup>3</sup> of title 20.

(Pub. L. 102-476, § 3, Oct. 23, 1992, 106 Stat. 2297; Pub. L. 105-244, title I, § 102(a)(13)(B), Oct. 7, 1998, 112 Stat. 1620; Pub. L. 107-368, § 21(a), (b), Dec. 19, 2002, 116 Stat. 3064; Pub. L. 110-69, title VII, § 7031(a), Aug. 9, 2007, 121 Stat. 710.)

<sup>2</sup> So in original. Probably should be “subparagraph”.

<sup>3</sup> See References in Text note below.

## REFERENCES IN TEXT

Sections 1862h to 1862j of this title, referred to in subsecs. (a) and (f), was in the original “this Act”, meaning Pub. L. 102-476, Oct. 23, 1992, 106 Stat. 2297, known as the Scientific and Advanced-Technology Act of 1992, which enacted this section and sections 1862h and 1862j of this title and amended section 1862 of this title. For complete classification of this Act to the Code, see Short Title of 1992 Amendment note set out under section 1861 of this title and Tables.

The Higher Education Act of 1965, referred to in subsecs. (c)(1)(C) and (d), is Pub. L. 89-329, Nov. 8, 1965, 79 Stat. 1219, as amended. Part B of title I of the Act is classified generally to part B (§1011 et seq.) of subchapter I of chapter 28 of Title 20, Education. Pub. L. 105-244, title I, §101(a), Oct. 7, 1998, 112 Stat. 1585, amended title I of the Act generally and part B, which formerly related to articulation agreements, now relates to additional general provisions. For complete classification of this Act to the Code, see Short Title note set out under section 1001 of Title 20 and Tables.

Section 2891(12) of title 20, referred to in subsec. (g)(5), was in the original “section 1471(12) of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 2891(12))”, Pub. L. 89-10, and was omitted in the general amendment of that Act by Pub. L. 103-382, title I, §101, Oct. 20, 1994, 108 Stat. 3519. For provisions relating to definitions, see section 7801 of Title 20, Education.

## CODIFICATION

Section was enacted as part of the Scientific and Advanced-Technology Act of 1992, and not as part of the National Science Foundation Act of 1950 which comprises this chapter.

## AMENDMENTS

2007—Subsec. (a)(3)(A). Pub. L. 110-69, §7031(a)(1)(A), which directed striking out “and” after the semicolon, was executed by striking out “and” after the comma, to reflect the probable intent of Congress.

Subsec. (a)(3)(B), (C). Pub. L. 110-69, §7031(a)(1)(B), (C), substituted “; and” for semicolon in subpar. (B) and added subpar. (C).

Subsec. (c)(3). Pub. L. 110-69, §7031(a)(2), added par. (3).

2002—Subsec. (a). Pub. L. 107-368, §21(a)(1), inserted “, and to improve the quality of their core education courses in science and mathematics” after “education in advanced-technology fields” in introductory provisions.

Subsec. (a)(1). Pub. L. 107-368, §21(a)(2), inserted “and in core science and mathematics courses” after “advanced-technology fields”.

Subsec. (a)(2). Pub. L. 107-368, §21(a)(3), substituted “who provide instruction in science, mathematics, and advanced-technology fields” for “in advanced-technology fields”.

Subsec. (c)(1)(B)(iii), (iv). Pub. L. 107-368, §21(b), added cls. (iii) and (iv).

1998—Subsec. (g)(2), (3). Pub. L. 105-244 substituted “section 101 of the Higher Education Act of 1965” for “section 1201(a) of the Higher Education Act of 1965 (20 U.S.C. 1141(a))”.

## EFFECTIVE DATE OF 1998 AMENDMENT

Amendment by Pub. L. 105-244 effective Oct. 1, 1998, except as otherwise provided in Pub. L. 105-244, see section 3 of Pub. L. 105-244, set out as a note under section 1001 of Title 20, Education.

**§ 1862j. Authorization of appropriations**

There are authorized to be appropriated, from sums otherwise authorized to be appropriated, to the Director for carrying out sections 1862h to 1862j of this title—

- (1) \$35,000,000 for fiscal year 1992; and

- (2) \$35,000,000 for fiscal year 1993.

(Pub. L. 102-476, §5, Oct. 23, 1992, 106 Stat. 2301.)

## REFERENCES IN TEXT

Sections 1862h to 1862j of this title, referred to in text, was in the original “this Act”, meaning Pub. L. 102-476, Oct. 23, 1992, 106 Stat. 2297, known as the Scientific and Advanced-Technology Act of 1992, which enacted this section and sections 1862h and 1862i of this title and amended section 1862 of this title. For complete classification of this Act to the Code, see Short Title of 1992 Amendment note set out under section 1861 of this title and Tables.

## CODIFICATION

Section was enacted as part of the Scientific and Advanced-Technology Act of 1992, and not as part of the National Science Foundation Act of 1950 which comprises this chapter.

**§ 1862k. Findings; core strategies****(a) Findings**

Congress finds the following:

(1) The United States depends upon its scientific and technological capabilities to preserve the military and economic security of the United States.

(2) America’s leadership in the global marketplace is dependent upon a strong commitment to education, basic research, and development.

(3) A nation that is not technologically literate cannot compete in the emerging global economy.

(4) A coordinated commitment to mathematics and science instruction at all levels of education is a necessary component of successful efforts to produce technologically literate citizens.

(5) Professional development is a necessary component of efforts to produce system-wide improvements in mathematics, engineering, and science education in secondary, elementary, and postsecondary settings.

(6)(A) The mission of the National Science Foundation is to provide Federal support for basic scientific and engineering research, and to be a primary contributor to mathematics, science, and engineering education at academic institutions in the United States.

(B) In accordance with such mission, the long-term goals of the National Science Foundation include providing leadership to—

(i) enable the United States to maintain a position of world leadership in all aspects of science, mathematics, engineering, and technology;

(ii) promote the discovery, integration, dissemination, and application of new knowledge in service to society; and

(iii) achieve excellence in United States science, mathematics, engineering, and technology education at all levels.

**(b) Core strategies**

In carrying out activities designed to achieve the goals described in subsection (a), the Foundation shall use the following core strategies:

(1) Develop intellectual capital, both people and ideas, with particular emphasis on groups and regions that traditionally have not participated fully in science, mathematics, and engineering.