Part B — Mathematics and Science Partnerships

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SEC. 2201. PURPOSE; DEFINITIONS.

(a) PURPOSE- The purpose of this part is to improve the academic achievement of students in the areas of mathematics and science by encouraging State educational agencies, institutions of higher education, local educational agencies, elementary schools, and secondary schools to participate in programs that —

(1) improve and upgrade the status and stature of mathematics and science teaching by encouraging institutions of higher education to assume greater responsibility for improving mathematics and science teacher education through the establishment of a comprehensive, integrated system of recruiting, training, and advising mathematics and science teachers;

(2) focus on the education of mathematics and science teachers as a career-long process that continuously stimulates teachers' intellectual growth and upgrades teachers' knowledge and skills;

(3) bring mathematics and science teachers in elementary schools and secondary schools together with scientists, mathematicians, and engineers to increase the subject matter knowledge of mathematics and science teachers and improve such teachers' teaching skills through the use of sophisticated laboratory equipment and work space, computing facilities, libraries, and other resources that institutions of higher education are better able to provide than the elementary schools and secondary schools;

(4) develop more rigorous mathematics and science curricula that are aligned with challenging State and local academic content standards and with the standards expected for postsecondary study in engineering, mathematics, and science; and

(5) improve and expand training of mathematics and science teachers, including training such teachers in the effective integration of technology into curricula and instruction.

(b) DEFINITIONS- In this part:

(1) ELIGIBLE PARTNERSHIP- The term eligible partnership' means a partnership that —

(A) shall include —

(i) if grants are awarded under section 2202(a)(1), a State educational agency;

(ii) an engineering, mathematics, or science department of an institution of higher education; and

(iii) a high-need local educational agency; and

(B) may include —

(i) another engineering, mathematics, science, or teacher training department of an institution of higher education;

(ii) additional local educational agencies, public charter schools, public or private elementary schools or secondary schools, or a consortium of such schools;

(iii) a business; or
(iv) a nonprofit or for-profit organization of demonstrated effectiveness in improving the quality of mathematics and science teachers.

(2) SUMMER WORKSHOP OR INSTITUTE- The term summer workshop or institute' means a workshop or institute, conducted during the summer, that —

(A) is conducted for a period of not less than 2 weeks;
(B) includes, as a component, a program that provides direct interaction between students and faculty; and
(C) provides for followup training during the academic year that is conducted in the classroom for a period of not less than three consecutive or nonconsecutive days, except that —
(i) if the workshop or institute is conducted during a 2-week period, the followup training shall be conducted for a period of not less than 4 days; and
(ii) if the followup training is for teachers in rural school districts, the followup training may be conducted through distance learning.

SEC. 2202. GRANTS FOR MATHEMATICS AND SCIENCE PARTNERSHIPS.

(a) GRANTS AUTHORIZED-

(1) GRANTS TO PARTNERSHIPS- For any fiscal year for which the funds appropriated under section 2203 are less than $100,000,000, the Secretary is authorized to award grants, on a competitive basis, to eligible partnerships to carry out the authorized activities described in subsection (c).

(2) GRANTS TO STATE EDUCATIONAL AGENCIES-

(A) IN GENERAL- For any fiscal year for which the funds appropriated under section 2203 equal or exceed $100,000,000 —
(i) if an eligible partnership in the State was previously awarded a grant under paragraph (1), and the grant period has not ended, the Secretary shall reserve funds in a sufficient amount to make payments to the partnership in accordance with the terms of the grant; and
(ii) the Secretary is authorized to award grants to State educational agencies to enable such agencies to award subgrants, on a competitive basis, to eligible partnerships to carry out the authorized activities described in subsection (c).

(B) ALLOTMENT- The Secretary shall allot the amount made available under this part for a fiscal year and not reserved under subparagraph (A)(i) among the State educational agencies in proportion to the number of children, aged 5 to 17, who are from families with incomes below the poverty line and reside in a State for the most recent fiscal year for which satisfactory data are available, as compared to the number of such children who reside in all such States for such year.

(C) MINIMUM ALLOTMENT- The amount of any State educational agency's allotment under subparagraph (B) for any fiscal year may not be less than one-half of 1 percent of the amount made available under this part for such year.

(3) DURATION- The Secretary shall award grants under this part for a period of 3 years.

(4) SUPPLEMENT, NOT SUPPLANT- Funds received under this part shall be used to supplement, and not supplant, funds that would otherwise be used for activities authorized under this part.

(b) APPLICATION REQUIREMENTS-

(1) IN GENERAL- Each eligible partnership desiring a grant or subgrant under this part shall submit an application —

(A) in the case of grants awarded pursuant to subsection (a)(1), to the Secretary, at such time, in such manner, and accompanied by such information as the Secretary may require; or

(B) in the case of subgrants awarded pursuant to subsection (a)(2), to the State educational agency, at such time, in such manner, and accompanied by such information as the State educational agency may require.

(2) CONTENTS- Each application submitted pursuant to paragraph (1) shall include —

(A) the results of a comprehensive assessment of the teacher quality and professional development needs of any schools, local educational agencies, and State educational agencies that comprise the eligible partnership with respect to the teaching and learning of mathematics and science;

(B) a description of how the activities to be carried out by the eligible partnership will be aligned with challenging State academic content and student academic achievement standards in mathematics and science and with other educational reform activities that promote student academic achievement in mathematics and science;

(C) a description of how the activities to be carried out by the eligible partnership will be based on a review of scientifically based research, and an explanation of how the activities are expected to improve student academic achievement and strengthen the quality of mathematics and science instruction;

(D) a description of —

(i) how the eligible partnership will carry out the authorized activities described in subsection (c); and

(ii) the eligible partnership's evaluation and accountability plan described in subsection (e); and

(E) a description of how the eligible partnership will continue the activities funded under this part after the original grant or subgrant period has expired.

(c) AUTHORIZED ACTIVITIES- An eligible partnership shall use funds provided under this part for one or more of the following activities related to elementary schools or secondary schools:

(1) Creating opportunities for enhanced and ongoing professional development of mathematics and science teachers that improves the subject matter knowledge of such teachers.

(2) Promoting strong teaching skills for mathematics and science teachers and teacher educators, including integrating reliable scientifically based research teaching methods and technology-based teaching methods into the curriculum.

(3) Establishing and operating mathematics and science summer workshops or institutes, including followup training, for elementary school and secondary school mathematics and science teachers that —

(A) shall —

(i) directly relate to the curriculum and academic areas in which the teacher provides instruction, and focus only secondarily on pedagogy;

(ii) enhance the ability of the teacher to understand and use the challenging State academic content standards for mathematics and science and to select appropriate curricula; and

(iii) train teachers to use curricula that are —

(I) based on scientific research;

(II) aligned with challenging State academic content standards; and

(III) object-centered, experiment-oriented, and concept- and content-based; and

(B) may include —

(i) programs that provide teachers and prospective teachers with opportunities to work under the guidance of experienced teachers and college faculty;

(ii) instruction in the use of data and assessments to inform and instruct classroom practice; and

(iii) professional development activities, including supplemental and followup activities, such as curriculum alignment, distance learning, and activities that train teachers to utilize technology in the classroom.

(4) Recruiting mathematics, engineering, and science majors to teaching through the use of —

(A) signing and performance incentives that are linked to activities proven effective in retaining teachers, for individuals with demonstrated professional experience in mathematics, engineering, or science;

(B) stipends provided to mathematics and science teachers for certification through alternative routes;

(C) scholarships for teachers to pursue advanced course work in mathematics, engineering, or science; and

(D) other programs that the State educational agency determines to be effective in recruiting and retaining individuals with strong mathematics, engineering, or science backgrounds.

(5) Developing or redesigning more rigorous mathematics and science curricula that are aligned with challenging State and local academic content standards and with the standards expected for postsecondary study in mathematics and science.

(6) Establishing distance learning programs for mathematics and science teachers using curricula that are innovative, content-based, and based on scientifically based research that is current as of the date of the program involved.

(7) Designing programs to prepare a mathematics or science teacher at a school to provide professional development to other mathematics or science teachers at the school and to assist beginning and other teachers at the school, including (if applicable) a mechanism to integrate the teacher's experiences from a summer workshop or institute into the provision of professional development and assistance.

(8) Establishing and operating programs to bring mathematics and science teachers into contact with working scientists, mathematicians, and engineers, to

expand such teachers' subject matter knowledge of and research in science and mathematics.

(9) Designing programs to identify and develop exemplary mathematics and science teachers in the kindergarten through grade 8 classrooms.

(10) Training mathematics and science teachers and developing programs to encourage young women and other underrepresented individuals in mathematics and science careers (including engineering and technology) to pursue postsecondary degrees in majors leading to such careers.

(d) COORDINATION AND CONSULTATION-

(1) PARTNERSHIP GRANTS- An eligible partnership receiving a grant under section 203 of the Higher Education Act of 1965 shall coordinate the use of such funds with any related activities carried out by such partnership with funds made available under this part.

(2) NATIONAL SCIENCE FOUNDATION- In carrying out the activities authorized by this part, the Secretary shall consult and coordinate with the Director of the National Science Foundation, particularly with respect to the appropriate roles for the Department and the Foundation in the conduct of summer workshops, institutes, or partnerships to improve mathematics and science teaching in elementary schools and secondary schools.

(e) EVALUATION AND ACCOUNTABILITY PLAN-

(1) IN GENERAL- Each eligible partnership receiving a grant or subgrant under this part shall develop an evaluation and accountability plan for activities assisted under this part that includes rigorous objectives that measure the impact of activities funded under this part.

(2) CONTENTS- The plan developed pursuant to paragraph (1) —

(A) shall include measurable objectives to increase the number of mathematics and science teachers who participate in content-based professional development activities;

(B) shall include measurable objectives for improved student academic achievement on State mathematics and science assessments or, where applicable, an International Mathematics and Science Study assessment; and

(C) may include objectives and measures for —

(i) increased participation by students in advanced courses in mathematics and science;

(ii) increased percentages of elementary school teachers with academic majors or minors, or group majors or minors, in mathematics, engineering, or the sciences; and

(iii) increased percentages of secondary school classes in mathematics and science taught by teachers with academic majors in mathematics, engineering, and science.

(f) REPORT- Each eligible partnership receiving a grant or subgrant under this part shall report annually to the Secretary regarding the eligible partnership's progress in meeting the objectives described in the accountability plan of the partnership under subsection (e).

SEC. 2203. AUTHORIZATION OF APPROPRIATIONS.

There are authorized to be appropriated to carry out this part $450,000,000 for fiscal year 2002 and such sums as may be necessary for each of the 5 succeeding fiscal years.