

Union Calendar No. 526

106TH CONGRESS
2D SESSION

H. R. 4271

[Report No. 106–821, Part I]

To establish and expand programs relating to science, mathematics, engineering, and technology education, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

APRIL 13, 2000

Mr. EHLERS (for himself, Mrs. BIGGERT, Mr. BOEHLERT, Mr. BRADY of Texas, Mr. COOK, Mr. GILCHREST, Mr. GILMAN, Mr. HOLT, Mr. JENKINS, Ms. EDDIE BERNICE JOHNSON of Texas, Mr. KUYKENDALL, Mr. PORTER, Mrs. ROUKEMA, Mr. SMITH of Michigan, Mr. SWEENEY, Mr. UPTON, and Mrs. WILSON) introduced the following bill; which was referred to the Committee on Science, and in addition to the Committee on Education and the Workforce, for a period to be subsequently determined by the Speaker, in each case for consideration of such provisions as fall within the jurisdiction of the committee concerned

SEPTEMBER 6, 2000

Reported from the Committee on Science with an amendment

[Strike out all after the enacting clause and insert the part printed in *italic*]

SEPTEMBER 6, 2000

Referral to the Committee on Education and the Workforce extended for a period ending not later than September 21, 2000

SEPTEMBER 21, 2000

Additional sponsors: Mr. SPENCE, Mr. DAVIS of Virginia, Mr. ENGLISH, Mr. BALLENGER, Mrs. KELLY, Mr. FROST, Mr. ISAKSON, Mr. COOKSEY, Mr. PETRI, Ms. LEE, Mrs. JOHNSON of Connecticut, Mr. CALVERT, Mrs. MORELLA, Mr. BACA, Mr. EWING, Mr. WOLF, Mr. DEAL of Georgia, Mr. GREEN of Wisconsin, Mr. WALSH, Mr. LARSON, Mr. GUTKNECHT, Mr. BARTON of Texas, Mr. SALMON, Ms. PRYCE of Ohio, Mr. KUCINICH, Mr. BOEHNER, Mr. WEINER, Mr. NORWOOD, Ms. RIVERS, Mr. MCCRERY, Mr. CAPUANO, Mr. BENTSEN, Mr. BARTLETT of Maryland, Mr. WELDON of Pennsylvania, Mr. FRANK of Massachusetts, Mr. BEREUTER, Mr.

SHAYS, Mr. CAMP, Mr. ENGEL, Mr. OSE, Mr. LAMPSON, Mrs. BONO, Ms. CARSON, Ms. SLAUGHTER, Ms. DUNN, Mr. FLETCHER, Ms. HOOLEY of Oregon, Mr. PRICE of North Carolina, Mr. OLVER, Mr. GORDON, Mr. STENHOLM, Mr. HOLDEN, Mr. ALLEN, Mr. HOBSON, Mr. COBURN, Mr. HALL of Texas, Mr. MARTINEZ, Mr. FILNER, Mrs. MINK of Hawaii, Mr. ETHERIDGE, Mr. LANTOS, Mr. RAMSTAD, Mr. PASTOR, Ms. NORTON, Mr. COSTELLO, Mr. GIBBONS, Mr. BARCIA, Mr. WU, Mr. BLAGOJEVICH, Ms. MILLENDER-McDONALD, Mr. CRAMER, Mr. RAHALL, Mr. BILIRAKIS, Mr. MICA, Ms. WOOLSEY, Mr. HOFFEL, Mr. LUCAS of Oklahoma, Mr. SENSENBRENNER, Mr. UDALL of Colorado, Mr. WELDON of Florida, Mr. SANDLIN, Mr. DOOLEY of California, Mr. KLINK, Mr. KOLBE, Mr. FALEOMAVAEGA, Mr. LATOURETTE, Mr. MOORE, Mr. WHITFIELD, Mrs. NAPOLITANO, Mr. HORN, Mr. BASS, Mr. EVANS, Mr. GREENWOOD and Mr. DEFazio

SEPTEMBER 21, 2000

The Committee on Education and the Workforce discharged; committed to the Committee of the Whole House on the State of the Union and ordered to be printed

[For text of introduced bill, see copy of bill as introduced on April 13, 2000]

A BILL

To establish and expand programs relating to science, mathematics, engineering, and technology education, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
 2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 *This Act may be cited as the “National Science Edu-*
 5 *cation Act”.*

6 **SEC. 2. FINDINGS.**

7 *Congress finds the following:*

8 *(1) As concluded in the report of the Committee*
 9 *on Science of the House of Representatives,*

1 *“Unlocking Our Future Toward a New National*
2 *Science Policy”, which was adopted by the House of*
3 *Representatives, the United States must maintain*
4 *and improve its preeminent position in science and*
5 *technology in order to advance human understanding*
6 *of the universe and all it contains, and to improve the*
7 *lives, health, and freedoms of all people.*

8 *(2) It is estimated that more than half of the eco-*
9 *nomic growth of the United States today results di-*
10 *rectly from research and development in science and*
11 *technology. The most fundamental research is respon-*
12 *sible for investigating our perceived universe, to ex-*
13 *tend our observations to the outer limits of what our*
14 *minds and methods can achieve, and to seek answers*
15 *to questions that have never been asked before. Ap-*
16 *plied research continues the process by applying the*
17 *answers from basic science to the problems faced by*
18 *individuals, organizations, and governments in the*
19 *everyday activities that make our lives more livable.*
20 *The scientific-technological sector of our economy,*
21 *which has driven our recent economic boom and led*
22 *the United States to the longest period of prosperity*
23 *in history, is fueled by the work and discoveries of*
24 *the scientific community.*

1 (3) *The effectiveness of the United States in*
2 *maintaining this economic growth will be largely de-*
3 *termined by the intellectual capital of the United*
4 *States. Education is critical to developing this re-*
5 *source.*

6 (4) *The education program of the United States*
7 *needs to provide for 3 different kinds of intellectual*
8 *capital. First, it needs scientists, mathematicians,*
9 *and engineers to continue the research and develop-*
10 *ment that are central to the economic growth of the*
11 *United States. Second, it needs technologically pro-*
12 *ficient workers who are comfortable and capable deal-*
13 *ing with the demands of a science-based, high-tech-*
14 *nology workplace. Last, it needs scientifically literate*
15 *voters and consumers to make intelligent decisions*
16 *about public policy.*

17 (5) *Student performance on the recent Third*
18 *International Mathematics and Science Study high-*
19 *lights the shortcomings of current K–12 science and*
20 *mathematics education in the United States, particu-*
21 *larly when compared to other countries. We must ex-*
22 *pect more from our Nation’s educators and students*
23 *if we are to build on the accomplishments of previous*
24 *generations. New methods of teaching science, mathe-*
25 *matics, engineering, and technology are required, as*

1 *well as better curricula and improved training of*
2 *teachers.*

3 *(6) Science is more than a collection of facts,*
4 *theories, and results. It is a process of inquiry built*
5 *upon observations and data that leads to a way of*
6 *knowing and explaining in logically derived concepts*
7 *and theories. Mathematics is more than procedures to*
8 *be memorized. It is a field that requires reasoning,*
9 *understanding, and making connections in order to*
10 *solve problems. Engineering is more than just design-*
11 *ing and building. It is the process of making com-*
12 *promises to optimize design and assessing risks so*
13 *that designs and products best solve a given problem.*
14 *Technology is more than using computer applications,*
15 *the Internet, and programming. Technology is the in-*
16 *novation, change, or modification of the natural envi-*
17 *ronment, based on scientific, mathematical, and engi-*
18 *neering principles.*

19 *(7) Students should learn science primarily by*
20 *doing science. Science education ought to reflect the*
21 *scientific process and be object-oriented, experiment-*
22 *centered, and concept-based. Students should learn*
23 *mathematics with understanding that numeric sys-*
24 *tems have intrinsic properties that can represent ob-*
25 *jects and systems in real life, and can be applied in*

1 *solving problems. Engineering education should reflect*
2 *the realities of real world design, and should involve*
3 *hands-on projects and require students to make trade-*
4 *offs based upon evidence. Students should learn tech-*
5 *nology as both a tool to solve other problems and as*
6 *a process by which people adapt the natural world to*
7 *suit their own purposes. Computers represent a par-*
8 *ticularly useful form of technology, enabling students*
9 *and teachers to acquire data, model systems, visualize*
10 *phenomena, communicate and organize information,*
11 *and collaborate with others in powerful new ways. A*
12 *background in the basics of information technology is*
13 *essential for success in the modern workplace and the*
14 *modern world.*

15 *(8) Children are naturally curious and inquisi-*
16 *tive. To successfully tap into these innate qualities,*
17 *education in science, mathematics, engineering, and*
18 *technology must begin at an early age and continue*
19 *throughout the entire school experience.*

20 *(9) Teachers provide the essential connection be-*
21 *tween students and the content they are learning.*
22 *Prospective teachers need to be identified and re-*
23 *cruited by presenting to them a career that is re-*
24 *spected by their peers, is financially and intellectu-*
25 *ally rewarding, contains sufficient opportunities for*

1 *advancement, and has continuing access to profes-*
 2 *sional development.*

3 *(10) Teachers need to have incentives to remain*
 4 *in the classroom and improve their practice, and*
 5 *training of teachers is essential if the results are to*
 6 *be good. Teachers need to be knowledgeable of their*
 7 *content area, of their curriculum, of up-to-date re-*
 8 *search in teaching and learning, and of techniques*
 9 *that can be used to connect that information to their*
 10 *students in their classroom.*

11 **SEC. 3. ASSURANCE OF CONTINUED LOCAL CONTROL.**

12 *Nothing in this Act may be construed to authorize any*
 13 *department, agency, officer, or employee of the United*
 14 *States to exercise any direction, supervision, or control over*
 15 *the curriculum, program of instruction, administration, or*
 16 *personnel of any educational institution or school system.*

17 **SEC. 4. MASTER TEACHER GRANT PROGRAM.**

18 *(a) PROGRAM AUTHORIZED.—The Director of the Na-*
 19 *tional Science Foundation shall conduct a grant program*
 20 *to make grants to a State or local educational agency, a*
 21 *private elementary or middle school, or a consortium of any*
 22 *combination of those entities, for the purpose of hiring a*
 23 *master teacher described in subsection (b).*

24 *(b) ELIGIBILITY.—In order to be eligible to receive a*
 25 *grant under this subsection, a State or local educational*

1 agency, private elementary or middle school, or consortium
 2 described in subsection (a) shall submit to the Director a
 3 description of the relationship the master teacher will have
 4 vis-a-vis other administrative and managerial staff and the
 5 State and local educational agency, the ratio of master
 6 teachers to other teachers, and the requirements for a master
 7 teacher of the State or local educational agency or school,
 8 including certification requirements and job responsibilities
 9 of the master teacher. Job responsibilities must include a
 10 discussion of any responsibility the master teacher will have
 11 for—

12 (1) development or implementation of science,
 13 mathematics, engineering, or technology curricula;

14 (2) in-classroom assistance;

15 (3) authority over hands-on inquiry materials,
 16 equipment, and supplies;

17 (4) mentoring other teachers or fulfilling any
 18 leadership role; and

19 (5) professional development, including training
 20 other master teachers or other teachers, or developing
 21 or implementing professional development programs.

22 (c) *ASSESSMENT OF EFFECTIVENESS.*—The Director
 23 shall assess the effectiveness of activities carried out under
 24 this section.

25 (d) *FUNDS.*—

1 (1) *SOURCE.*—Grants shall be made under this
 2 section out of funds available for the National Science
 3 Foundation for Education and Human Resources Ac-
 4 tivities.

5 (2) *AUTHORIZATION.*—There are authorized to be
 6 appropriated to the National Science Foundation to
 7 carry out this section \$50,000,000 for each of fiscal
 8 years 2001 through 2003.

9 **SEC. 5. DEMONSTRATION PROGRAM AUTHORIZED.**

10 (a) *GENERAL AUTHORITY.*—

11 (1) *IN GENERAL.*—

12 (A) *GRANT PROGRAM.*—The Director of the
 13 National Science Foundation shall, subject to ap-
 14 propriations, carry out a demonstration project
 15 under which the Director awards grants in ac-
 16 cordance with this section to eligible local edu-
 17 cational agencies.

18 (B) *USES OF FUNDS.*—A local educational
 19 agency that receives a grant under this section
 20 may use such grant funds to develop a program
 21 that builds or expands mathematics, science, and
 22 information technology curricula, to purchase
 23 equipment necessary to establish such program,
 24 and to provide professional development in such
 25 fields.

1 (2) *PROGRAM REQUIREMENTS.*—*The program*
 2 *described in paragraph (1) shall—*

3 (A) *provide professional development spe-*
 4 *cifically in information technology, mathematics,*
 5 *and science; and*

6 (B) *provide students with specialized train-*
 7 *ing in mathematics, science, and information*
 8 *technology.*

9 (b) *ELIGIBLE LOCAL EDUCATIONAL AGENCIES.*—*For*
 10 *purposes of this section, a local educational agency or con-*
 11 *sortium of local educational agencies is eligible to receive*
 12 *a grant under this section if the agency or consortium—*

13 (1) *provides assurances that it has executed con-*
 14 *ditional agreements with representatives of the pri-*
 15 *rate sector to provide services and funds described in*
 16 *subsection (c); and*

17 (2) *agrees to enter into an agreement with the*
 18 *Director to comply with the requirements of this sec-*
 19 *tion.*

20 (c) *PRIVATE SECTOR PARTICIPATION.*—*The condi-*
 21 *tional agreements referred to in subsection (b)(1) shall de-*
 22 *scribe participation by the private sector, including—*

23 (1) *the donation of computer hardware and soft-*
 24 *ware;*

1 (2) *the establishment of internship and men-*
2 *toring opportunities for students who participate in*
3 *the information technology program; and*

4 (3) *the donation of higher education scholarship*
5 *funds for eligible students who have participated in*
6 *the information technology program.*

7 (d) *APPLICATION.—*

8 (1) *IN GENERAL.—To apply for a grant under*
9 *this section, each eligible local educational agency or*
10 *consortium of local educational agencies shall submit*
11 *an application to the Director in accordance with*
12 *guidelines established by the Director pursuant to*
13 *paragraph (2).*

14 (2) *GUIDELINES.—*

15 (A) *REQUIREMENTS.—The guidelines re-*
16 *ferred to in paragraph (1) shall require, at a*
17 *minimum, that the application include—*

18 (i) *a description of proposed activities*
19 *consistent with the uses of funds and pro-*
20 *gram requirements under subsection*
21 *(a)(1)(B) and (a)(2);*

22 (ii) *a description of the higher edu-*
23 *cation scholarship program, including cri-*
24 *teria for selection, duration of scholarship,*
25 *number of scholarships to be awarded each*

1 year, and funding levels for scholarships;
2 and

3 (iii) evidence of private sector partici-
4 pation and financial support to establish
5 an internship, mentoring, and scholarship
6 program.

7 (B) *GUIDELINE PUBLICATION.*—The Direc-
8 tor shall issue and publish such guidelines not
9 later than 6 months after the date of the enact-
10 ment of this Act.

11 (3) *SELECTION.*—The Director shall select a local
12 educational agency to receive an award under this
13 section in accordance with subsection (e) and on the
14 basis of merit to be determined after conducting a
15 comprehensive review.

16 (e) *PRIORITY.*—The Director shall give special priority
17 in awarding grants under this section to eligible local edu-
18 cational agencies that—

19 (1) demonstrate the greatest ability to obtain
20 commitments from representatives of the private sec-
21 tor to provide services and funds described under sub-
22 section (c); and

23 (2) demonstrate the greatest economic need.

24 (f) *ASSESSMENT.*—The Director shall assess the effec-
25 tiveness of activities carried out under this section.

1 (g) *STUDY AND REPORT.*—*The Director—*

2 (1) *shall initiate an evaluative study of eligible*
3 *students selected for scholarships pursuant to this sec-*
4 *tion in order to measure the effectiveness of the dem-*
5 *onstration program; and*

6 (2) *shall report the findings of the study to Con-*
7 *gress not later than 4 years after the award of the*
8 *first scholarship. Such report shall include the num-*
9 *ber of students graduating from an institution of*
10 *higher education with a major in mathematics,*
11 *science, or information technology and the number of*
12 *students who find employment in such fields.*

13 (h) *DEFINITION.*—*Except as otherwise provided, for*
14 *purposes of this section, the term “eligible student” means*
15 *a student enrolled in the 12th grade who—*

16 (A) *has participated in an information tech-*
17 *nology program established pursuant to this section;*

18 (B) *has demonstrated a commitment to pursue a*
19 *career in information technology, mathematics,*
20 *science, or engineering; and*

21 (C) *has attained high academic standing and*
22 *maintains a grade point average of not less than 3.0*
23 *on a 4.0 scale for the last 2 years of secondary school*
24 *(11th and 12th grades).*

1 (i) *AUTHORIZATION OF APPROPRIATIONS.*—*There are*
 2 *authorized to be appropriated to the National Science*
 3 *Foundation to carry out this section, \$3,000,000 for each*
 4 *of fiscal years 2001 through 2003.*

5 (j) *MAXIMUM GRANT AWARD.*—*An award made to an*
 6 *eligible local educational agency under this section may not*
 7 *exceed \$300,000.*

8 **SEC. 6. DISSEMINATION OF INFORMATION ON REQUIRED**
 9 **COURSE OF STUDY FOR CAREERS IN**
 10 **SCIENCE, MATHEMATICS, ENGINEERING, AND**
 11 **TECHNOLOGY EDUCATION.**

12 (a) *IN GENERAL.*—*The Director of the National*
 13 *Science Foundation shall, jointly with the Secretary of*
 14 *Education, compile and disseminate information (includ-*
 15 *ing through outreach, school counselor education, and vis-*
 16 *iting speakers) regarding—*

17 (1) *typical standard prerequisites for middle*
 18 *school and high school students who seek to enter a*
 19 *course of study at an institution of higher education*
 20 *in science, mathematics, engineering, or technology*
 21 *education for purposes of teaching in an elementary*
 22 *or secondary school; and*

23 (2) *the licensing requirements in each State for*
 24 *science, mathematics, engineering, or technology ele-*
 25 *mentary or secondary school teachers.*

1 (b) *AUTHORIZATION OF APPROPRIATIONS.*—*There are*
2 *authorized to be appropriated for the National Science*
3 *Foundation to carry out this section \$5,000,000 for each*
4 *of fiscal years 2001 through 2003.*

5 **SEC. 7. REQUIREMENT TO CONDUCT STUDY EVALUATION.**

6 (a) *STUDY REQUIRED.*—*The Director of the National*
7 *Science Foundation shall enter into an agreement with the*
8 *National Academies of Sciences and Engineering under*
9 *which the Academies shall review existing studies on the*
10 *effectiveness of technology in the classroom on learning and*
11 *student performance, using various measures of learning*
12 *and teaching outcome including standardized tests of stu-*
13 *dent achievement, and explore the feasibility of one or more*
14 *methodological frameworks to be used in evaluations of tech-*
15 *nologies that have different purposes and are used by schools*
16 *and school systems with diverse educational goals. The*
17 *study evaluation shall include, to the extent available, infor-*
18 *mation on the type of technology used in each classroom,*
19 *the reason that such technology works, and the teacher*
20 *training that is conducted in conjunction with the tech-*
21 *nology.*

22 (b) *DEADLINE FOR COMPLETION.*—*The study evalua-*
23 *tion required by subsection (a) shall be completed not later*
24 *than one year after the date of the enactment of this Act.*

1 (c) *DEFINITION OF TECHNOLOGY.*—*In this section, the*
 2 *term “technology” has the meaning given that term in sec-*
 3 *tion 3113(11) of the Elementary and Secondary Education*
 4 *Act of 1965 (20 U.S.C. 6813(11)).*

5 (d) *AUTHORIZATION OF APPROPRIATIONS.*—*There are*
 6 *authorized to be appropriated to the National Science*
 7 *Foundation for the purpose of conducting the study evalua-*
 8 *tion required by subsection (a), \$600,000.*

9 **SEC. 8. TEACHER TECHNOLOGY PROFESSIONAL DEVELOP-**
 10 **MENT.**

11 (a) *IN GENERAL.*—*The Director of the National*
 12 *Science Foundation shall establish a grant program under*
 13 *which grants may be made to a State or local educational*
 14 *agency, a private elementary or middle school, or a consor-*
 15 *tium consisting of any combination of those entities for in-*
 16 *struction of teachers for grades kindergarten through the*
 17 *12th grade on the use of information technology in the class-*
 18 *room. Grants awarded under this section shall be used for*
 19 *training teachers to use—*

20 (1) *classroom technology, including hardware,*
 21 *software, communications technologies, and labora-*
 22 *tory equipment; or*

23 (2) *specific technology for science, mathematics,*
 24 *engineering or technology instruction, including data*

1 *acquisition, modeling, visualization, simulation, and*
 2 *numerical analysis.*

3 *(b) AUTHORIZATION OF APPROPRIATIONS.—There are*
 4 *authorized to be appropriated for the National Science*
 5 *Foundation to carry out this section \$10,000,000 for each*
 6 *of fiscal years 2001 through 2003.*

7 **SEC. 9. SCIENCE, MATHEMATICS, ENGINEERING, AND TECH-**
 8 **NOLOGY BUSINESS EDUCATION CON-**
 9 **FERENCE.**

10 *(a) IN GENERAL.—Not later than 180 days after the*
 11 *date of the enactment of this Act, the Director of the Na-*
 12 *tional Science Foundation shall convene the first of an an-*
 13 *nual 3- to 5-day conference for kindergarten through the*
 14 *12th grade science, mathematics, engineering, and tech-*
 15 *nology education stakeholders, including—*

16 *(1) representatives from Federal, State, and local*
 17 *governments, private industries, private businesses,*
 18 *and professional organizations;*

19 *(2) educators;*

20 *(3) science, mathematics, engineering, and tech-*
 21 *nology educational resource providers;*

22 *(4) students; and*

23 *(5) any other stakeholders the Director deter-*
 24 *mines would provide useful participation in the con-*
 25 *ference.*

1 (b) *PURPOSES.*—*The purposes of the conference con-*
2 *vened under subsection (a) shall be to—*

3 (1) *identify and gather information on existing*
4 *science, mathematics, engineering, and technology*
5 *education programs and resource providers, including*
6 *information on distribution, partners, cost assess-*
7 *ment, and derivation;*

8 (2) *determine the extent of any existing coordi-*
9 *nation between providers of curricular activities, ini-*
10 *tiatives, and units; and*

11 (3) *identify the common goals and differences*
12 *among the participants at the conference.*

13 (c) *REPORT AND PUBLICATION.*—*At the conclusion of*
14 *the conference the Director of the National Science Founda-*
15 *tion shall—*

16 (1) *transmit to the Committee on Science of the*
17 *House of Representatives and to the Committee on*
18 *Commerce, Science, and Transportation of the Senate*
19 *a report on the outcome and conclusions of the con-*
20 *ference, including an inventory of curricular activi-*
21 *ties, initiatives, and units, the content of the con-*
22 *ference, and strategies developed that will support*
23 *partnerships and leverage resources; and*

24 (2) *ensure that a similar report is published and*
25 *distributed as widely as possible to stakeholders in*

1 *science, mathematics, engineering, and technology*
 2 *education.*

3 *(d) AUTHORIZATION OF APPROPRIATIONS.—There are*
 4 *authorized to be appropriated for the National Science*
 5 *Foundation to carry out this section—*

6 *(1) \$300,000 for fiscal year 2001; and*

7 *(2) \$200,000 for each of fiscal years 2002 and*
 8 *2003.*

9 **SEC. 10. GRANTS FOR DISTANCE LEARNING.**

10 *(a) IN GENERAL.—The Director of the National*
 11 *Science Foundation may make competitive, merit-based*
 12 *awards to develop partnerships for distance learning of*
 13 *science, mathematics, engineering, and technology edu-*
 14 *cation to a State or local educational agency or to a private*
 15 *elementary, middle, or secondary school, under any grant*
 16 *program administered by the Director using funds appro-*
 17 *priated to the National Science Foundation for activities*
 18 *in which distance learning is integrated into the education*
 19 *process in grades kindergarten through the 12th grade.*

20 *(b) AUTHORIZATION OF APPROPRIATIONS.—There are*
 21 *authorized to be appropriated for the National Science*
 22 *Foundation to carry out this section \$5,000,000 for each*
 23 *of fiscal years 2001 through 2003.*

1 **SEC. 11. SCHOLARSHIPS TO PARTICIPATE IN CERTAIN RE-**
2 **SEARCH ACTIVITIES.**

3 (a) *IN GENERAL.*—The President, acting through the
4 National Science Foundation, shall provide scholarships to
5 teachers at public and private schools in grades kinder-
6 garten through the 12th grade in order that such teachers
7 may participate in research programs conducted at private
8 entities or Federal or State government agencies. The pur-
9 pose of such scholarships shall be to provide teachers with
10 an opportunity to expand their knowledge of science, mathe-
11 matics, engineering, technology, and research techniques.

12 (b) *REQUIREMENTS.*—In order to be eligible to receive
13 a scholarship under this section, a teacher described in sub-
14 section (a) shall be required to develop, in conjunction with
15 the private entity or Government agency at which the teach-
16 er will be participating in a research program, a proposal
17 to be submitted to the President describing the types of re-
18 search activities involved.

19 (c) *PERIOD OF PROGRAM.*—Participation in a re-
20 search program in accordance with this section may be for
21 a period of one academic year or two sequential summers.

22 (d) *USE OF FUNDS.*—The Director may only use funds
23 for purposes of this section for salaries of scholarship recipi-
24 ents, administrative expenses (including information dis-
25 semination, direct mailing, advertising, and direct staff
26 costs for coordination and accounting services), expenses for

1 *conducting an orientation program, relocation expenses,*
 2 *and the expenses of conducting final selection interviews.*

3 *(e) AUTHORIZATION OF APPROPRIATIONS.—There are*
 4 *authorized to be appropriated for the National Science*
 5 *Foundation to carry out this section \$5,000,000 for each*
 6 *of fiscal years 2001 through 2003.*

7 **SEC. 12. EDUCATIONAL TECHNOLOGY UTILIZATION EXTEN-**
 8 **SION ASSISTANCE.**

9 *(a) PURPOSE.—The purpose of this section is to im-*
 10 *prove the utilization of educational technologies in elemen-*
 11 *tary and secondary education by creating an educational*
 12 *technology extension service based at undergraduate institu-*
 13 *tions of higher education.*

14 *(b) FINDINGS.—The Congress finds the following:*

15 *(1) Extension services such as the Manufacturing*
 16 *Extension Partnership and the Agricultural Exten-*
 17 *sion Service have proven to be effective public/private*
 18 *partnerships to integrate new technologies and to im-*
 19 *prove utilization of existing technologies by small to*
 20 *medium sized manufacturers and the United States*
 21 *agricultural community.*

22 *(2) Undergraduate institutions of higher edu-*
 23 *cation working with nonprofit organizations and*
 24 *State and Federal agencies can tailor educational*

1 *technology extension programs to meet specific local*
2 *and regional requirements.*

3 (3) *Undergraduate institutions of higher edu-*
4 *cation, often with the assistance of the National*
5 *Science Foundation, have for the past 20 years been*
6 *integrating educational technologies into their cur-*
7 *ricula, and as such they can draw upon their own ex-*
8 *periences to advise elementary and secondary school*
9 *educators on ways to integrate a variety of edu-*
10 *cational technologies into the educational process.*

11 (4) *Many elementary and secondary school sys-*
12 *tems, particularly in rural and traditionally under-*
13 *served areas, lack general information on the most ef-*
14 *fective methods to integrate their existing technology*
15 *infrastructure, as well as new educational technology,*
16 *into the educational process and curriculum.*

17 (5) *Most Federal and State educational tech-*
18 *nology programs have focused on acquiring edu-*
19 *cational technologies with less emphasis on the utili-*
20 *zation of those technologies in the classroom and the*
21 *training and infrastructural requirements needed to*
22 *efficiently support those types of technologies. As a re-*
23 *sult, in many instances, the full potential of edu-*
24 *cational technology has not been realized.*

1 (6) *Our global economy is increasingly reliant*
 2 *on a workforce not only comfortable with technology,*
 3 *but also able to integrate rapid technological changes*
 4 *into the production process. As such, in order to re-*
 5 *main competitive in a global economy, it is impera-*
 6 *tive that we maintain a work-ready labor force.*

7 (7) *According to “Teacher Quality: A Report on*
 8 *the Preparation and Qualifications of Public School*
 9 *Teachers”, prepared by the Department of Education,*
 10 *only one in five teachers felt they were well prepared*
 11 *to work in a modern classroom.*

12 (8) *The most common form of professional devel-*
 13 *opment for teachers continues to be workshops that*
 14 *typically last no more than one day and have little*
 15 *relevance to teachers’ work in the classroom.*

16 (9) *A 1998 national survey completed by the De-*
 17 *partment of Education found that only 19 percent of*
 18 *teachers had been formally mentored by another*
 19 *teacher, and that 70 percent of these teachers felt that*
 20 *this collaboration was very helpful to their teaching.*

21 (c) *PROGRAM AUTHORIZED.—*

22 (1) *GENERAL AUTHORITY.—The Director of the*
 23 *National Science Foundation, in cooperation with the*
 24 *Secretary of Education and the Director of the Na-*
 25 *tional Institute of Standards and Technology, is au-*

1 *thorized to provide assistance for the creation and*
 2 *support of regional centers for the utilization of edu-*
 3 *cational technologies (hereinafter in this section re-*
 4 *ferred to as “ETU Centers”).*

5 (2) *FUNCTIONS OF CENTERS.—*

6 (A) *ESTABLISHMENT.—ETU Centers may*
 7 *be established at any institution of higher edu-*
 8 *cation, but such centers may include the partici-*
 9 *pation of nonprofit entities, organizations, or*
 10 *groups thereof.*

11 (B) *OBJECTIVES OF CENTERS.—The objec-*
 12 *tive of the ETU Centers is to enhance the utiliza-*
 13 *tion of educational technologies in elementary*
 14 *and secondary education through—*

15 (i) *advising elementary and secondary*
 16 *school administrators, school boards, and*
 17 *teachers on the adoption and utilization of*
 18 *new educational technologies and the utility*
 19 *of local schools’ existing educational tech-*
 20 *nology assets and infrastructure;*

21 (ii) *participation of individuals from*
 22 *the private sector, universities, State and*
 23 *local governments, and other Federal agen-*
 24 *cies;*

1 (iii) active dissemination of technical
2 and management information about the use
3 of educational technologies; and

4 (iv) utilization, where appropriate, of
5 the expertise and capabilities that exist in
6 Federal laboratories and Federal agencies.

7 (C) *ACTIVITIES OF CENTERS.*—The activi-
8 ties of the ETU Centers shall include the fol-
9 lowing:

10 (i) The active transfer and dissemina-
11 tion of research findings and ETU Center
12 expertise to local school authorities, includ-
13 ing school administrators, school boards,
14 and teachers.

15 (ii) The training of teachers in the in-
16 tegration of local schools existing edu-
17 cational technology infrastructure into their
18 instructional design.

19 (iii) The training and advising of
20 teachers, administrators, and school board
21 members in the acquisition, utilization, and
22 support of educational technologies.

23 (iv) Support services to teachers, ad-
24 ministrators, and school board members as

1 *agreed upon by ETU Center representatives*
2 *and local school authorities.*

3 *(v) The advising of teachers, adminis-*
4 *trators, and school board members on cur-*
5 *rent skill set standards employed by private*
6 *industry.*

7 *(3) PROGRAM ADMINISTRATION.—*

8 *(A) PROPOSED RULES.—The Director of the*
9 *National Science Foundation, after consultation*
10 *with the Secretary of Education and the Director*
11 *of the National Institute of Standards and Tech-*
12 *nology, shall publish in the Federal Register,*
13 *within 90 days after the date of the enactment*
14 *of this section, proposed rules for the program for*
15 *establishing ETU Centers, including—*

16 *(i) a description of the program;*

17 *(ii) the procedures to be followed by*
18 *applicants;*

19 *(iii) the criteria for determining quali-*
20 *fied applicants; and*

21 *(iv) the criteria, including those listed*
22 *in this section, for choosing recipients of fi-*
23 *nancial assistance under this section from*
24 *among qualified applicants.*

1 (B) *FINAL RULES.*—*The Director of the Na-*
2 *tional Science Foundation shall publish final*
3 *rules for the program under this section after the*
4 *expiration of a 30-day comment period on such*
5 *proposed rules.*

6 (4) *ELIGIBILITY AND SELECTION.*—

7 (A) *APPLICATIONS REQUIRED.*—*Any under-*
8 *graduate institution of higher education, consor-*
9 *tium of such institutions, nonprofit organiza-*
10 *tions, or groups thereof may submit an applica-*
11 *tion for financial support under this section in*
12 *accordance with the procedures established under*
13 *this section. In order to receive assistance under*
14 *this section, an applicant shall provide adequate*
15 *assurances that the applicant will contribute 50*
16 *percent or more of the proposed Center's capital*
17 *and annual operating and maintenance costs.*

18 (B) *SELECTION.*—*The Director of the Na-*
19 *tional Science Foundation, in conjunction with*
20 *the Secretary of Education and the Director of*
21 *the National Institute of Standards and Tech-*
22 *nology, shall subject each application to competi-*
23 *tive, merit review. In making a decision whether*
24 *to approve such application and provide finan-*
25 *cial support under this section, the Director of*

1 *the National Science Foundation shall consider*
2 *at a minimum—*

3 *(i) the merits of the application, par-*
4 *ticularly those portions of the application*
5 *regarding the adaption of training and edu-*
6 *cational technologies to the needs of par-*
7 *ticular regions;*

8 *(ii) the quality of service to be pro-*
9 *vided;*

10 *(iii) the geographical diversity and ex-*
11 *tent of service area, with particular empha-*
12 *sis on rural and traditionally under-*
13 *developed areas; and*

14 *(iv) the percentage of funding and*
15 *amount of in-kind commitment from other*
16 *sources.*

17 *(C) EVALUATION.—Each ETU Center which*
18 *receives financial assistance under this section*
19 *shall be evaluated during its third year of oper-*
20 *ation by an evaluation panel appointed by the*
21 *Director of the National Science Foundation.*
22 *Each evaluation panel shall measure the in-*
23 *volved Center's performance against the objec-*
24 *tives specified in this section. Funding for an*

1 *ETU Center shall not be renewed unless the eval-*
2 *uation is positive.*

3 **SEC. 13. INTERAGENCY COORDINATION OF SCIENCE EDU-**
4 **CATION PROGRAMS.**

5 *(a) INTERAGENCY COORDINATION COMMITTEE.—*

6 *(1) ESTABLISHMENT.—The Director of the Office*
7 *of Science and Technology Policy shall establish an*
8 *interagency committee to coordinate Federal pro-*
9 *grams in support of science and mathematics edu-*
10 *cation at the elementary and secondary level.*

11 *(2) MEMBERSHIP.—The membership of the com-*
12 *mittee shall consist of the heads, or designees, of the*
13 *National Science Foundation, the Department of En-*
14 *ergy, the National Aeronautics and Space Adminis-*
15 *tration, the Department of Education, and other Fed-*
16 *eral departments and agencies that have programs di-*
17 *rected toward support of elementary and secondary*
18 *science and mathematics education.*

19 *(3) FUNCTIONS.—The committee shall—*

20 *(A) prepare a catalog of Federal research,*
21 *development, demonstration and other programs*
22 *designed to improve elementary and secondary*
23 *science or mathematics education, including for*
24 *each program a summary of its goals and the*
25 *kinds of activities supported, a summary of ac-*

1 *complishments (including evidence of effective-*
2 *ness in improving student learning), the funding*
3 *level, and, for grant programs, the eligibility re-*
4 *quirements and the selection process for awards;*

5 *(B) review the programs identified under*
6 *subparagraph (A) in order to—*

7 *(i) determine the relative funding levels*
8 *among support for—*

9 *(I) teacher professional develop-*
10 *ment;*

11 *(II) curricular materials;*

12 *(III) improved classroom teaching*
13 *practices;*

14 *(IV) applications of computers*
15 *and related information technologies;*
16 *and*

17 *(V) other major categories of ac-*
18 *tivities;*

19 *(ii) assess whether the balance among*
20 *kinds of activities as determined under*
21 *clause (i) is appropriate and whether un-*
22 *necessary duplication or overlap among*
23 *programs exists;*

24 *(iii) assess the degree to which the pro-*
25 *grams assist the efforts of State and local*

1 *school systems to implement standards-*
2 *based reform of science and mathematics*
3 *education, and group the programs in the*
4 *categories of high, moderate, and low rel-*
5 *evance for assisting standards-based reform;*
6 *(iv) for grant programs, identify ways*
7 *to simplify the application procedures and*
8 *requirements and to achieve greater con-*
9 *formity among the procedures and require-*
10 *ments of the agencies; and*
11 *(v) evaluate the adequacy of the assess-*
12 *ment procedures used by the departments*
13 *and agencies to determine whether the goals*
14 *and objectives of programs are being*
15 *achieved, and identify the best practices*
16 *identified from the evaluation for assess-*
17 *ment of program effectiveness; and*
18 *(C) monitor the implementation of the plan*
19 *developed under subsection (c) and provide to the*
20 *Director of the Office of Science and Technology*
21 *Policy its findings and recommendations for*
22 *modifications to that plan.*
23 ***(b) EXTERNAL REVIEW.***—*The Director of the National*
24 *Science Foundation shall enter into an agreement with the*
25 *National Research Council to conduct an independent re-*

1 *view of programs as described in subsection (a)(3)(B) and*
 2 *to develop findings and recommendations. The findings and*
 3 *recommendations from the National Research Council re-*
 4 *view of programs shall be reported to the Director of the*
 5 *Office of Science and Technology Policy and to the Con-*
 6 *gress.*

7 *(c) EDUCATION PLAN.—*

8 *(1) PLAN CONTENTS.—On the basis of the find-*
 9 *ings of the review carried out in accordance with sub-*
 10 *section (a)(3)(B) and taking into consideration the*
 11 *findings and recommendations of the National Re-*
 12 *search Council in accordance with subsection (b), the*
 13 *Director of the Office of Science and Technology Pol-*
 14 *icy shall prepare a plan for Federal elementary and*
 15 *secondary science and mathematics education pro-*
 16 *grams which shall include—*

17 *(A) a strategy to increase the effectiveness of*
 18 *Federal programs to assist the efforts of State*
 19 *and local school systems to implement standards-*
 20 *based reform of elementary and secondary*
 21 *science and mathematics education;*

22 *(B) a coordinated approach for identifying*
 23 *best practices for the use of computers and re-*
 24 *lated information technologies in classroom in-*
 25 *struction;*

1 (C) *the recommended balance for Federal re-*
2 *source allocation among the major types of ac-*
3 *tivities supported, including projected funding*
4 *allocations for each major activity broken out by*
5 *department and agency;*

6 (D) *identification of effective Federal pro-*
7 *grams that have made measurable contributions*
8 *to achieving standards-based science and mathe-*
9 *matics education reform;*

10 (E) *recommendations to the departments*
11 *and agencies for actions needed to increase uni-*
12 *formity across the Federal Government for appli-*
13 *cation procedures and requirements for grant*
14 *awards for support of elementary and secondary*
15 *science and mathematics education; and*

16 (F) *dissemination procedures for replicating*
17 *results from effective programs, particularly best*
18 *practices for classroom instruction.*

19 (2) *CONSULTATION.—The Director shall consult*
20 *with academic, State, industry, and other appro-*
21 *priate entities engaged in efforts to reform science and*
22 *mathematics education as necessary and appropriate*
23 *for preparing the plan under paragraph (1).*

24 (d) *REPORTS.—*

1 (1) *INITIAL REPORT.*—*The Director of the Office*
2 *of Science and Technology Policy shall submit to the*
3 *Congress, not later than 1 year after the date of the*
4 *enactment of this Act, a report which—*

5 (A) *includes the plan described in sub-*
6 *section (c)(1);*

7 (B) *in accordance with subsection (c)(1)(C),*
8 *describes, for each department and agency rep-*
9 *resented on the committee established under sub-*
10 *section (a)(1), appropriate levels of Federal*
11 *funding;*

12 (C) *includes the catalog prepared under*
13 *subsection (a)(3)(A);*

14 (D) *includes the findings from the review*
15 *required under subsection (a)(3)(B)(iii);*

16 (E) *includes the findings and recommenda-*
17 *tions of the National Research Council developed*
18 *under subsection (b); and*

19 (F) *describes the procedures used by each*
20 *department and agency represented on the com-*
21 *mittee to assess the effectiveness of its education*
22 *programs.*

23 (2) *ANNUAL UPDATES.*—*The Director of the Of-*
24 *fice of Science and Technology Policy shall submit to*
25 *the Congress an annual update, at the time of the*

1 *President's annual budget request, of the report sub-*
 2 *mitted under paragraph (1), which shall include, for*
 3 *each department and agency represented on the com-*
 4 *mittee, appropriate levels of Federal funding for the*
 5 *fiscal year during which the report is submitted and*
 6 *the levels proposed for the fiscal year with respect to*
 7 *which the budget submission applies.*

8 **SEC. 14. SCIENCE, MATHEMATICS, AND ENGINEERING**
 9 **SCHOLARSHIP PROGRAM.**

10 (a) *PROGRAM AUTHORIZED.*—*The Director of the Na-*
 11 *tional Science Foundation is authorized to establish a schol-*
 12 *arship program to assist graduates of baccalaureate degree*
 13 *programs in science, mathematics or engineering, or indi-*
 14 *viduals pursuing degrees in those fields, to fulfill the aca-*
 15 *demic requirements necessary to become certified as elemen-*
 16 *tary or secondary school teachers.*

17 (b) *SCHOLARSHIP AMOUNT AND DURATION.*—*Each*
 18 *scholarship provided under subsection (a) shall be in the*
 19 *amount of \$5,000 and shall cover a period of 1 year.*

20 (c) *REQUIREMENTS.*—

21 (1) *ELIGIBILITY.*—*Undergraduate students ma-*
 22 *joring in science, mathematics, or engineering who*
 23 *are within one academic year of completion of degree*
 24 *requirements, and individuals who have received de-*

1 *grees in such fields, are eligible to receive scholarships*
 2 *under the program established by subsection (a).*

3 (2) *GUIDELINES, PROCEDURES, AND CRITERIA.—*
 4 *The Director shall establish and publish application*
 5 *and selection guidelines, procedures, and criteria for*
 6 *the scholarship program.*

7 (3) *REQUIREMENTS FOR APPLICATIONS.—Each*
 8 *application for a scholarship shall include a plan*
 9 *specifying the course of study that will allow the ap-*
 10 *plicant to fulfill the academic requirements for ob-*
 11 *taining a teaching certificate during the scholarship*
 12 *period.*

13 (4) *WORK REQUIREMENT.—As a condition of ac-*
 14 *ceptance of a scholarship under this section, a recipi-*
 15 *ent shall agree to work as an elementary or secondary*
 16 *school teacher for a minimum of two years following*
 17 *certification as such a teacher or to repay the amount*
 18 *of the scholarship to the National Science Foundation.*

19 (d) *AUTHORIZATION OF APPROPRIATIONS.—There are*
 20 *authorized to be appropriated to the National Science*
 21 *Foundation to carry out this section \$5,000,000 for each*
 22 *of fiscal years 2001, 2002, and 2003.*

1 **SEC. 15. GO GIRL GRANTS.**

2 (a) *SHORT TITLE.*—*This section may be cited as the*
3 *“Getting Our Girls Ready for the 21st Century Act (Go Girl*
4 *Act)”*.

5 (b) *FINDINGS.*—*Congress finds the following:*

6 (1) *Women have historically been underrep-*
7 *resented in mathematics, science, and technology oc-*
8 *cupations.*

9 (2) *Female students take fewer high-level mathe-*
10 *matics and science courses in high school than male*
11 *students.*

12 (3) *Female students take far fewer advanced*
13 *computer classes and tend to take only the basic data*
14 *entry and word processing classes compared to courses*
15 *that male students take.*

16 (4) *Female students earn fewer bachelors, mas-*
17 *ters, and doctoral degrees in mathematics, science,*
18 *and technology than male students.*

19 (5) *Early career exploration is key to choosing*
20 *a career.*

21 (6) *Teachers’ attitudes, methods of teaching, and*
22 *classroom atmosphere affect females’ interest in non-*
23 *traditional fields.*

24 (7) *Stereotypes about appropriate careers for fe-*
25 *males, a lack of female role models, and a lack of*

1 *basic career information significantly deters girls' in-*
 2 *terest in mathematics, science, and technology careers.*

3 *(8) Females consistently rate themselves signifi-*
 4 *cantly lower than males in computer ability.*

5 *(9) By the year 2000, 65 percent of all jobs will*
 6 *require technological skills.*

7 *(10) Limited access is a hurdle faced by females*
 8 *seeking jobs in mathematics, science, and technology.*

9 *(11) Common recruitment and hiring practices*
 10 *make extensive use of traditional networks that often*
 11 *overlook females.*

12 *(c) PROGRAM AUTHORITY.—*

13 *(1) IN GENERAL.—The Director of the National*
 14 *Science Foundation is authorized to provide grants to*
 15 *and enter into contracts or cooperative agreements*
 16 *with with local educational agencies and institutions*
 17 *of higher education to encourage the ongoing interest*
 18 *of girls in science, mathematics, and technology and*
 19 *to prepare girls to pursue undergraduate and grad-*
 20 *uate degrees and careers in science, mathematics, or*
 21 *technology.*

22 *(2) APPLICATION.—*

23 *(A) IN GENERAL.—To be eligible to receive*
 24 *a grant under this section, a local educational*
 25 *agency or institution of higher education shall*

1 *submit an application to the Director at such*
2 *time, in such form, and containing such infor-*
3 *mation as the Director may reasonably require.*

4 *(B) CONTENTS.—The application referred*
5 *to in subparagraph (A) shall contain, at a min-*
6 *imum, the following:*

7 *(i) A specific program description, in-*
8 *cluding the content of the program and the*
9 *research and models used to design the pro-*
10 *gram.*

11 *(ii) A description of how an eligible*
12 *entity will provide for collaboration between*
13 *elementary and secondary school programs*
14 *to fulfill goals of the grant program.*

15 *(iii) An explanation regarding the re-*
16 *cruitment and selection of participants.*

17 *(iv) A description of the instructional*
18 *and motivational activities planned to be*
19 *used.*

20 *(v) An evaluation plan.*

21 *(d) USES OF FUNDS FOR ELEMENTARY SCHOOL PRO-*
22 *GRAM.—Under grants awarded pursuant to subsection (c),*
23 *funds may be used for the following:*

1 (1) *Encouraging girls in grades 4 and higher to*
2 *enjoy and pursue studies in science, mathematics, and*
3 *technology.*

4 (2) *Acquainting girls in grades 4 and higher*
5 *with careers in science, mathematics, and technology.*

6 (3) *Educating the parents of girls in grades 4*
7 *and higher about the difficulties faced by girls to*
8 *maintain an interest and desire to achieve in science,*
9 *mathematics, and technology and enlisting the help of*
10 *the parents in overcoming these difficulties.*

11 (4) *Tutoring in reading, science, mathematics,*
12 *and technology.*

13 (5) *Mentoring relationships, both in-person and*
14 *through the Internet.*

15 (6) *Paying the costs of attending events and aca-*
16 *ademic programs in science, mathematics, and tech-*
17 *nology.*

18 (7) *After-school activities designed to encourage*
19 *the interest of girls in grades 4 and higher in science,*
20 *mathematics, and technology.*

21 (8) *Summer programs designed to encourage in-*
22 *terest in and develop skills in science, mathematics,*
23 *and technology.*

1 (9) *Purchasing software designed for girls, or de-*
2 *signed to encourage girls' interest in science, mathe-*
3 *matics, and technology.*

4 (10) *Field trips to locations that educate and en-*
5 *courage girls' interest in science, mathematics, and*
6 *technology.*

7 (11) *Field trips to locations that acquaint girls*
8 *with careers in science, mathematics, and technology.*

9 (12) *Purchasing and disseminating information*
10 *to parents of girls in grades 4 and higher that will*
11 *help parents to encourage their daughters' interest in*
12 *science, mathematics, and technology.*

13 (e) *USES OF FUNDS FOR SECONDARY SCHOOL PRO-*
14 *GRAM.—Under grants awarded pursuant to subsection (c),*
15 *funds may be used for the following:*

16 (1) *Encouraging girls in grades 9 and higher to*
17 *major in science, mathematics, and technology in a*
18 *postsecondary institution.*

19 (2) *Providing academic advice and assistance in*
20 *high school course selection.*

21 (3) *Encouraging girls in grades 9 and higher to*
22 *plan for careers in science, mathematics, and tech-*
23 *nology.*

24 (4) *Educating the parents of girls in grades 9*
25 *and higher about the difficulties faced by girls to*

1 *maintain an interest and desire to achieve in science,*
2 *mathematics, and technology and enlist the help of the*
3 *parents in overcoming these difficulties.*

4 (5) *Tutoring in science, mathematics, and tech-*
5 *nology.*

6 (6) *Mentoring relationships, both in-person and*
7 *through the Internet.*

8 (7) *Paying the costs of attending events and aca-*
9 *demic programs in science, mathematics, and tech-*
10 *nology.*

11 (8) *Paying 50 percent of the cost of an intern-*
12 *ship in science, mathematics, or technology.*

13 (9) *After-school activities designed to encourage*
14 *the interest of girls in grades 9 and higher in science,*
15 *mathematics, and technology, including the cost of*
16 *that portion of a staff salary to supervise these activi-*
17 *ties.*

18 (10) *Summer programs designed to encourage*
19 *interest in and develop skills in science, mathematics,*
20 *and technology.*

21 (11) *Purchasing software designed for girls, or*
22 *designed to encourage girls' interest in science, mathe-*
23 *matics, and technology.*

1 (12) *Field trips to locations that educate and en-*
 2 *courage girls’ interest in science, mathematics, and*
 3 *technology.*

4 (13) *Field trips to locations that acquaint girls*
 5 *with careers in science, mathematics, and technology.*

6 (14) *Visits to institutions of higher education to*
 7 *acquaint girls with college-level programs in science,*
 8 *mathematics, or technology, and to meet with edu-*
 9 *cators and female college students who will encourage*
 10 *them to pursue degrees in science, mathematics, and*
 11 *technology.*

12 (f) *DEFINITION.—In this section the term “local edu-*
 13 *cational agency” has the same meaning given such term*
 14 *in section 14101 of the Elementary and Secondary Edu-*
 15 *cation Act of 1965 (20 U.S.C. 8801), except that in the case*
 16 *of Hawaii, the District of Columbia, and the Common-*
 17 *wealth of Puerto Rico, the term “local educational agency”*
 18 *shall be deemed to mean the State educational agency.*

19 **SEC. 16. GRANT FOR LEARNING COMMUNITY CONSORTIUM**
 20 **FOR ADVANCEMENT OF WOMEN, MINORITIES,**
 21 **AND PERSONS WITH DISABILITIES IN**
 22 **SCIENCE, ENGINEERING, AND TECHNOLOGY.**

23 *The Director of the National Science Foundation may,*
 24 *through a competitive, merit-based process, provide to a*
 25 *consortium composed of community colleges a grant in an*

1 *amount not more than \$11,000,000 for the purpose of car-*
 2 *rying out a pilot project to provide support to encourage*
 3 *women, minorities, and persons with disabilities to enter*
 4 *and complete programs in science, engineering, and tech-*
 5 *nology.*

6 **SEC. 17. USE OF FUNDS FOR PROVIDING RELEASE TIME**
 7 **AND OTHER INCENTIVES.**

8 *A recipient of a grant under section 4 or 8 may use*
 9 *funds received through such grant for expenses related to*
 10 *leave from work (consistent with State law and contractual*
 11 *obligations), and other incentives, to permit and encourage*
 12 *full-time teachers to participate in—*

13 *(1) professional development activities relating to*
 14 *the use of technology in education; and*

15 *(2) the development, demonstration, and evalua-*
 16 *tion of applications of technology in elementary and*
 17 *secondary education.*

18 **SEC. 18. SCIENCE TEACHER EDUCATION.**

19 *(a) PROGRAM AUTHORIZED.—The Director of the Na-*
 20 *tional Science Foundation may establish a program to im-*
 21 *prove the undergraduate education and in-service profes-*
 22 *sional development of science and mathematics teachers in*
 23 *elementary and secondary schools. Under the program, com-*
 24 *petitive awards shall be made on the basis of merit to insti-*

1 *tutions of higher education that offer baccalaureate degrees*
 2 *in education, science and mathematics.*

3 *(b) PURPOSE OF AWARDS.—Awards made under sub-*
 4 *section (a) shall be for developing—*

5 *(1) courses and curricular materials for—*

6 *(A) the preparation of undergraduate stu-*
 7 *dents pursuing education degrees who intend to*
 8 *serve in elementary or secondary schools as*
 9 *science or mathematics teachers; or*

10 *(B) the professional development of science*
 11 *and mathematics teachers serving in elementary*
 12 *and secondary schools; and*

13 *(2) educational materials and instructional tech-*
 14 *niques incorporating innovative uses of information*
 15 *technology.*

16 *(c) REQUIREMENTS.—The Director shall establish and*
 17 *publish application and selection guidelines, procedures,*
 18 *and criteria for the program established by subsection (a).*
 19 *Proposals for awards under the program shall involve col-*
 20 *laborations of education, mathematics, and science faculty*
 21 *and include a plan for a continued collaboration beyond*
 22 *the period of the award. In making awards under this sec-*
 23 *tion, the Director shall consider—*

24 *(1) the degree to which courses and materials*
 25 *proposed to be developed in accordance with sub-*

1 *section (b) combine content knowledge and peda-*
 2 *gogical techniques that are consistent with hands-on,*
 3 *inquiry-based teaching, are aligned with established*
 4 *national science or mathematics standards, and are*
 5 *based on validated education research findings; and*

6 *(2) evidence of a strong commitment by the ad-*
 7 *ministrative heads of the schools and departments,*
 8 *whose faculty are involved in preparing a proposal to*
 9 *the program, to provide appropriate rewards and in-*
 10 *centives to encourage continued faculty participation*
 11 *in the collaborative activity.*

12 *(d) AUTHORIZATION OF APPROPRIATIONS.—There are*
 13 *authorized to be appropriated to the National Science*
 14 *Foundation to carry out this section \$2,000,000 for each*
 15 *of fiscal years 2001 through 2003.*

16 **SEC. 19. DEFINITIONS.**

17 *In this Act:*

18 *(1) The terms “local educational agency” and “State*
 19 *educational agency” have the meanings given such terms*
 20 *in section 14101 of the Elementary and Secondary Edu-*
 21 *cation Act of 1965 (20 U.S.C. 8801).*

22 *(2) The term “institution of higher education” has the*
 23 *meaning given that term by section 101 of the Higher Edu-*
 24 *cation Act of 1965 (20 U.S.C. 1001).*

Union Calendar No. 526

106TH CONGRESS
2D SESSION

H. R. 4271

[Report No. 106–821, Part I]

A BILL

To establish and expand programs relating to science, mathematics, engineering, and technology education, and for other purposes.

SEPTEMBER 21, 2000

The Committee on Education and the Workforce discharged; committed to the Committee on the Whole House on the State of the Union and ordered to be printed