

109TH CONGRESS
2D SESSION

S. 2248

To establish the Math and Science Teaching Corps.

IN THE SENATE OF THE UNITED STATES

FEBRUARY 7, 2006

Mr. SCHUMER introduced the following bill; which was read twice and referred
to the Committee on Health, Education, Labor, and Pensions

A BILL

To establish the Math and Science Teaching Corps.

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 “Mathematics and
5 Science Teaching Corps Act of 2006”.

6 **SEC. 2. FINDINGS AND PURPOSES.**

7 (a) FINDINGS.—Congress finds the following:

8 (1) Mathematics and science are the bases for
9 almost every technical competence in the modern
10 marketplace, including fields as diverse as computer
11 programming, physics, engineering, manufacturing,
12 and oil exploration.

1 (2) Cultivating a workforce with strong mathe-
2 matics and science skills is necessary both to keep
3 the United States competitive in a global economy
4 and for its national security. China's long-term
5 growth rate has surpassed that of the United States
6 in the time since Chinese economic reform focused
7 on the development of science and technology.

8 (3) Secondary school students in the United
9 States rank near the bottom when compared to their
10 counterparts in other developed countries. Of the
11 Organization for Economic Cooperation and Devel-
12 opment nations participating in the 2003 Program
13 for International Student Assessment, the United
14 States ranked 24th of 29 in mathematics and 23rd
15 of 29 in science, while Korea and Japan ranked in
16 the top 5 in both categories.

17 (4) Research shows that teacher quality is the
18 most important factor in determining student
19 achievement, especially in the technical fields of
20 mathematics and science. Researchers from Penn
21 State, the Urban Institute, and the RAND Corpora-
22 tion have all found higher student achievement in
23 secondary school for those students whose teachers
24 had taken more coursework related to their subject
25 area.

1 (5) According to the Center for Teaching and
 2 Policy, 38 percent of secondary school mathematics
 3 classes, 28 percent of general science classes, 45 per-
 4 cent of life science classes, and 60 percent of phys-
 5 ical science classes are taught by individuals lacking
 6 a major or a minor in such discipline.

7 (6) College graduates with strong mathematics
 8 or science backgrounds have many career opportuni-
 9 ties that are more financially attractive than teach-
 10 ing. According to the National Science Foundation,
 11 recent college graduates in 2001 were offered be-
 12 tween \$10,000 and \$20,000 more for their first year
 13 in a technical occupation other than teaching.

14 (7) Sophisticated mathematics and science
 15 teachers are needed in all classrooms across the Na-
 16 tion in order to raise student achievement and ulti-
 17 mately help the United States maintain its competi-
 18 tiveness in the global economy.

19 (8) Individuals who are strong in mathematics
 20 and science need financial incentives, peer men-
 21 toring, and professional development for proper re-
 22 cruitment and retainment in the field of teaching.

23 (b) PURPOSES.—The purposes of this Act are to—

24 (1) recruit up to 8,000 new, outstanding mathe-
 25 matics and science secondary school teachers each

1 year who might otherwise begin different careers;
2 and

3 (2) reward up to 8,000 existing and out-
4 standing mathematics and science secondary school
5 teachers each year who might otherwise leave the
6 teaching profession.

7 **SEC. 3. DEFINITIONS.**

8 In this Act:

9 (1) DIRECTOR.—The term “Director” means
10 the Director of the Math and Science Teaching
11 Corps.

12 (2) HARD-TO-STAFF SCHOOL.—The term
13 “hard-to-staff school” means a secondary school that
14 has great difficulty in finding and retaining qualified
15 and effective teachers, as determined by the Direc-
16 tor.

17 (3) PARTICIPATING LOCAL EDUCATIONAL AGEN-
18 CY.—The term “participating local educational agen-
19 cy” means a local educational agency that has been
20 certified by the Director as offering an induction
21 program for individuals receiving fellowships under
22 this Act that meets adequate standards, including—

23 (A) clustering Math and Science Teaching
24 Corps Fellows in individual or nearby schools;

1 (B) providing multi-year mentoring and
2 coaching;

3 (C) offering new teacher seminars on a
4 monthly basis;

5 (D) reducing the course load for such Fel-
6 lows;

7 (E) allowing time for joint lesson planning
8 and other constructive collaborative activities;

9 (F) providing professional development op-
10 portunities for such Fellows and Math and
11 Science Teaching Corps Master Fellows on con-
12 tent knowledge and pedagogy; and

13 (G) facilitating relationships between Math
14 and Science Teaching Corps Fellows and Math
15 and Science Teaching Corps Master Fellows.

16 (4) PARTNER INSTITUTION.—The term “part-
17 ner institution” means an institution of higher edu-
18 cation that has been certified by the Director as
19 meeting adequate standards for—

20 (A) offering a teacher preparation program
21 that—

22 (i) is modeled on the Master of Arts
23 in Teaching program, which provides a
24 full-time, 1-year course of study leading to

1 teacher certification and a master's degree;
 2 and

3 (ii) includes pedagogical courses and a
 4 minimum of 1 semester of student teach-
 5 ing experience;

6 (B) offering a part-time master's degree
 7 program in mathematics or science education
 8 for teachers who are certified to teach;

9 (C) offering a graduate degree program in
 10 mathematics and science; and

11 (D) establishing an explicit collaboration
 12 between the teacher preparation and mathe-
 13 matics and science departments of the institu-
 14 tion to provide graduate-level mathematics and
 15 science content courses that are appropriate for
 16 secondary school teachers.

17 (5) STANDARDIZED TEST.—The term “stand-
 18 ardized test” means the test required by the Direc-
 19 tor of each individual who applies for a fellowship
 20 under this Act that evaluates each individual's math-
 21 ematics or science subject area knowledge. The
 22 science subject area tests shall include a section to
 23 assess mathematics skills appropriate to each sub-
 24 ject. The standardized tests shall be approved and
 25 reviewed periodically by the National Academy of

1 Sciences to ensure that the tests meet rigorous
 2 standards and remain appropriate for the intended
 3 use, and cut-off scores shall be set at the national
 4 level.

5 **SEC. 4. ESTABLISHMENT OF THE MATH AND SCIENCE**
 6 **TEACHING CORPS.**

7 Title II of the Department of Education Organization
 8 Act (20 U.S.C. 3411 et seq.) is amended by adding at
 9 the end the following:

10 **“SEC. 221. MATH AND SCIENCE TEACHING CORPS.**

11 “(a) IN GENERAL.—There shall be in the Depart-
 12 ment a Math and Science Teaching Corps to be adminis-
 13 tered by the Director of the Math and Science Teaching
 14 Corps in accordance with the Mathematics and Science
 15 Teaching Corps Act of 2006.

16 “(b) DIRECTOR.—The Director of the Math and
 17 Science Teaching Corps shall—

18 “(1) administer the Math and Science Teaching
 19 Corps program established under the Mathematics
 20 and Science Teaching Corps Act of 2006; and

21 “(2) report directly to the Secretary and shall
 22 perform such additional functions as the Secretary
 23 may prescribe.

24 “(c) PURPOSE.—The Math and Science Teaching
 25 Corps is established in order to significantly improve

1 mathematics and science achievement among secondary
 2 school students in the United States by ensuring that such
 3 students are taught by well-prepared mathematics and
 4 science teachers with superior subject area knowledge.”.

5 **SEC. 5. MATH AND SCIENCE TEACHING CORPS FELLOWSHIPS FOR PROSPECTIVE TEACHERS.**

7 (a) ESTABLISHMENT.—The Director shall carry out
 8 a program through which the Director awards—

9 (1) Math and Science Teaching Corps Fellow-
 10 ships for Prospective Teachers (referred to in this
 11 part as “MSTC Fellowships”) to eligible individuals;

12 (2) grants to partner institutions to pay the tui-
 13 tion and fees and overhead costs at such institutions
 14 of individuals receiving MSTC Fellowships under
 15 this section; and

16 (3) grants to participating local educational
 17 agencies to pay the costs of the activities described
 18 in subsection (e)(4).

19 (b) DEFINITION OF ELIGIBLE INDIVIDUAL.—In this
 20 section, the term “eligible individual” means an individual
 21 who—

22 (1) is a recent college graduate or a mid-career
 23 professional outside of the teaching field; and

24 (2) possesses a strong content area knowledge,
 25 including a baccalaureate (or higher) degree in

1 mathematics, science, engineering, technology, or a
2 related field.

3 (c) APPLICATION.—An individual, partner institu-
4 tion, or participating local educational agency that desires
5 to receive a MSTC Fellowship or grant, as applicable,
6 under this section shall submit an application to the Direc-
7 tor at such time, in such manner, and accompanied by
8 such information as the Director may require.

9 (d) RECRUITMENT AND SELECTION OF INDIVIDUALS
10 FOR MSTC FELLOWSHIPS.—

11 (1) RECRUITMENT.—The Director shall recruit
12 eligible individuals for the MSTC Fellowships.

13 (2) SELECTION.—The Director shall establish
14 criteria to ensure that individuals who receive MSTC
15 Fellowships under this section possess—

16 (A) a comprehensive knowledge of the sub-
17 ject area to be taught as evidenced by per-
18 forming at a satisfactory level on a standard-
19 ized test;

20 (B) strong verbal and communication
21 skills; and

22 (C) other attributes that are linked to ef-
23 fective teaching.

24 (e) ACTIVITIES.—

1 (1) IN GENERAL.—An individual who receives a
2 MSTC Fellowship under this section shall—

3 (A) receive pedagogical training as de-
4 scribed in paragraph (2); and

5 (B) for 4 years, within a 7-year period of
6 first receiving the Fellowship, teach mathe-
7 matics or science in a secondary school, as de-
8 scribed in paragraph (3).

9 (2) PEDAGOGICAL TRAINING.—

10 (A) IN GENERAL.—An individual who re-
11 ceives a MSTC Fellowship under this section
12 shall—

13 (i) if the individual is not certified to
14 teach—

15 (I) attend, during the first year
16 of the MSTC Fellowship, a 1-year,
17 full-time graduate education program
18 of a partner institution that receives a
19 grant under this section; and

20 (II) receive, during that 1 year, a
21 stipend that is in an amount that is
22 equal to the Graduate Research Fel-
23 lowship stipend awarded by the Na-
24 tional Science Foundation; or

1 (ii) if the individual holds appropriate
 2 teacher certification credentials when
 3 granted the MSTC Fellowship, then during
 4 any of the 4 years of the MSTC Fellow-
 5 ship—

6 (I) attend a part-time graduate
 7 education program leading to a mas-
 8 ter's degree in mathematics or science
 9 education; or

10 (II) enroll at an institution of
 11 higher education in not more than 24
 12 credit hours of courses in mathe-
 13 matics, science, or education.

14 (B) GRANTS TO PARTNER INSTITU-
 15 TIONS.—A partner institution that receives a
 16 grant under this section—

17 (i) shall use the grant funds to pay
 18 the tuition and fees at such institution of
 19 individuals receiving MSTC Fellowships
 20 under this section; and

21 (ii) may use not more than 10 percent
 22 of the grant funds for overhead costs in-
 23 curred by the partner institution in admin-
 24 istering the grant.

1 (3) TEACHING, MENTORING, AND PROFES-
2 SIONAL DEVELOPMENT.—An individual who receives
3 a MSTC Fellowship under this section—

4 (A) shall, for 4 years, teach mathematics
5 or science in a secondary school served by a
6 participating local educational agency;

7 (B) shall, for such 4 years, participate in
8 induction programs offered by the participating
9 local educational agency;

10 (C) shall, for such 4 years, receive a sti-
11 pend that is equal to—

12 (i) for the first year of teaching de-
13 scribed in subparagraph (A), \$11,000;

14 (ii) for the second year of teaching de-
15 scribed in subparagraph (A), \$14,000;

16 (iii) for the third year of teaching de-
17 scribed in subparagraph (A), \$17,000; and

18 (iv) for the fourth year of teaching de-
19 scribed in subparagraph (A), \$20,000; and

20 (D) if the school in which the individual is
21 teaching is determined by the Director to be a
22 hard-to-staff school, may receive enhanced sti-
23 pends, of a uniform amount determined by the
24 Director, in each year of teaching as described
25 in subparagraph (A).

1 (4) GRANTS TO PARTICIPATING LOCAL EDU-
2 CATIONAL AGENCIES.—A participating local edu-
3 cational agency that receives a grant under this sec-
4 tion—

5 (A) shall use the grant funds to pay the
6 expenses associated with facilitating the induc-
7 tion and professional development services for
8 individuals receiving fellowships under this Act;
9 and

10 (B) may not reduce the salary of an indi-
11 vidual who receives a MSTC Fellowship under
12 this section and is employed in a secondary
13 school served by such agency below the salary
14 normally paid for an individual with a similar
15 background and experience solely because such
16 individual receives a stipend under paragraph
17 (3).

18 (f) REPORTS.—

19 (1) IN GENERAL.—Not later than 3 years after
20 the date of enactment of this Act, the Director shall
21 submit a report to Congress that evaluates the effec-
22 tiveness of the program under this section.

23 (2) SUBSEQUENT REPORTS.—The Director
24 shall submit an updated report every 5 years after

1 the date the first report is submitted under para-
 2 graph (1).

3 (g) REPAYMENT.—In the event that an individual re-
 4 ceiving a MSTC Fellowship under this section does not
 5 complete the activities described in subsection (e), the Di-
 6 rector shall require repayment of the stipends granted to
 7 the individual under this section according to the regula-
 8 tions established by the Math and Science Teaching
 9 Corps.

10 (h) AUTHORIZATION OF APPROPRIATIONS.—There
 11 are authorized to be appropriated to carry out this section,
 12 \$137,000,000 for fiscal year 2007, \$410,000,000 for fis-
 13 cal year 2008, \$683,000,000 for fiscal year 2009,
 14 \$956,000,000 for fiscal year 2010, and \$1,092,000,000
 15 for fiscal year 2011.

16 **SEC. 6. MATH AND SCIENCE TEACHING CORPS FELLOW-**
 17 **SHIPS FOR EXPERIENCED TEACHERS.**

18 (a) ESTABLISHMENT.—The Director shall carry out
 19 a program in which the Director awards Math and Science
 20 Teaching Corps Fellowships for Experienced Teachers (re-
 21 ferred to in this part as “MSTC Master Fellowships”) to
 22 eligible individuals.

23 (b) ELIGIBLE INDIVIDUAL.—In this section, the term
 24 “eligible individual” means an individual who—

1 (1) has been teaching mathematics or science in
2 a public secondary school for not less than 3 years;

3 (2) possessed certification in the field and level
4 in which the individual primarily taught during the
5 3 years preceding the year for which the determina-
6 tion is made; and

7 (3) is employed as a full-time, secondary mathe-
8 matics or science teacher in a participating local
9 educational agency.

10 (c) APPLICATIONS.—An eligible individual who de-
11 sires to receive a MSTC Master Fellowship under this sec-
12 tion shall submit an application to the Director at such
13 time, in such manner, and accompanied by such informa-
14 tion as the Director may require.

15 (d) RECRUITMENT AND SELECTION OF MSTC MAS-
16 TER FELLOWS.—

17 (1) RECRUITMENT.—The Director shall recruit
18 eligible individuals for MSTC Master Fellowships.

19 (2) SELECTION.—

20 (A) IN GENERAL.—The Director shall es-
21 tablish criteria to ensure that individuals who
22 receive MSTC Master Fellowships under this
23 section—

1 (i) demonstrate expertise in mathe-
 2 matics or science content by taking a
 3 standardized test;

4 (ii) demonstrate mastery of mathe-
 5 matics or science pedagogy and have a
 6 strong record of positively affecting aca-
 7 demic achievement, as demonstrated by ob-
 8 servations from supervisors, student data
 9 (as available), or other information as de-
 10 termined by the Director; and

11 (iii) demonstrate other attributes that
 12 are linked to effective teaching.

13 (e) ACTIVITIES.—

14 (1) IN GENERAL.—An eligible individual who
 15 receives a MSTC Master Fellowship under this sec-
 16 tion—

17 (A) shall—

18 (i) continue to teach mathematics or
 19 science in a public secondary school in a
 20 participating local educational agency for
 21 not less than an additional 5 years during
 22 the subsequent 7 years after receiving such
 23 a MSTC Master Fellowship under this sec-
 24 tion;

1 (ii) serve as a leader within the indi-
2 vidual's department and school;

3 (iii) mentor MSTC Fellows, as appro-
4 priate;

5 (iv) receive a stipend of \$20,000 for
6 each year the eligible individual continues
7 to teach, as described in clause (i), but for
8 not more than 5 years; and

9 (v) attend lectures, seminars, or work-
10 shops on content area knowledge or peda-
11 gogy provided by the participating local
12 educational agency that employs such eligi-
13 ble individual; and

14 (B) if the school in which the individual is
15 teaching is determined by the Director to be a
16 hard-to-staff school, may receive enhanced sti-
17 pends, of a uniform amount determined by the
18 Director, in each year of teaching as described
19 in subparagraph (A)(i).

20 (f) RENEWAL OF MSTC MASTER FELLOWSHIPS.—

21 An individual who has received a MSTC Fellowship or
22 MSTC Master Fellowships and has completed the require-
23 ments associated with such fellowship may re-apply for a
24 MSTC Master Fellowship (or apply for a MSTC Master
25 Fellowship in the case of an individual who has received

1 a MSTC Fellowship) if such individual is an eligible indi-
 2 vidual under this section.

3 (g) REPAYMENT.—In the event that an individual re-
 4 ceiving a MSTC Master Fellowship under this section does
 5 not complete the activities described in subsection (e), the
 6 Director shall require repayment of the stipends granted
 7 to the individual under this section according to the regu-
 8 lations established by the Math and Science Teaching
 9 Corps.

10 (h) REPORTS.—

11 (1) IN GENERAL.—Not later than 3 years after
 12 the date of enactment of this Act, the Director shall
 13 submit a report to Congress that evaluates the effec-
 14 tiveness of the program under this section.

15 (2) SUBSEQUENT REPORTS.—The Director
 16 shall submit an updated report every 5 years after
 17 the date the first report is submitted under para-
 18 graph (1).

19 (i) AUTHORIZATION OF APPROPRIATIONS.—There
 20 are authorized to be appropriated to carry out this section,
 21 \$100,000,000 for fiscal year 2007, \$300,000,000 for fis-
 22 cal year 2008, \$500,000,000 for fiscal year 2009,
 23 \$700,000,000 for fiscal year 2010, and \$800,000,000 for
 24 fiscal year 2011.

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