

107TH CONGRESS  
1ST SESSION

# H. R. 2049

To authorize the National Science Foundation to undertake certain activities  
in support of research on learning.

---

## IN THE HOUSE OF REPRESENTATIVES

JUNE 5, 2001

Mr. SMITH of Michigan introduced the following bill; which was referred to  
the Committee on Science

---

## A BILL

To authorize the National Science Foundation to undertake  
certain activities in support of research on learning.

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. FINDINGS.**

4       The Congress finds that—

5               (1) in virtually every sector of society—health,  
6       defense, transportation, agriculture, etc.—research  
7       is used to guide policy choices;

8               (2) in education, however, research has not  
9       been effectively utilized as a tool for informing policy  
10      and guiding reform, with less than 0.03 percent of

1 the \$647,800,000,000 spent on elementary and sec-  
2 ondary education invested in research of what edu-  
3 cational techniques actually work and on ways to im-  
4 prove teaching;

5 (3) the 1997 President’s Committee of Advisors  
6 on Science and Technology (PCAST) report entitled  
7 “The Use of Technology to Strengthen K–12 Edu-  
8 cation in the United States” recommended that our  
9 education research investment be increased to 0.5  
10 percent and that educational hypotheses be sub-  
11 jected to appropriately rigorous evaluation;

12 (4) a significant body of research and knowl-  
13 edge on the science of learning currently exists; how-  
14 ever, educational materials and practices are rarely  
15 aligned to this knowledge, and new education theo-  
16 ries are often incorporated in classrooms on the  
17 basis of only tenuously supported data;

18 (5) a cultural divide between education re-  
19 searchers and education practitioners—such as  
20 teachers—currently exists;

21 (6) an expert panel convened by the National  
22 Research Council recommended in 1999 that more  
23 education research be focused on issues of impor-  
24 tance to education practitioners and be conducted by

1 teams of both traditional researchers and teachers  
2 and other education practitioners;

3 (7) the education research effort to date is typi-  
4 fied by a largely scattershot approach, with little co-  
5 ordination of the research effort or focus on particu-  
6 larly compelling questions; and

7 (8) a 1999 report from the National Research  
8 Council entitled “Improving Student Learning” rec-  
9 ommended the adoption of a national, strategic edu-  
10 cation research program that would focus efforts on  
11 a limited number of the most critically important re-  
12 search questions.

13 **SEC. 2. RESEARCH ON LEARNING.**

14 (a) IN GENERAL.—For the purpose of integrating  
15 scientific disciplines in relation to research on learning,  
16 and gaining a better understanding of how such research  
17 and educational practice can be reconciled, the National  
18 Science Foundation shall continue to support research on  
19 learning, focusing on the following 4 areas:

20 (1) Brain research as a foundation for research  
21 on human learning.

22 (2) Behavioral, cognitive, affective, and social  
23 aspects of human learning.

1           (3) Science, mathematics, engineering, and  
2           technological learning in formal and informal edu-  
3           cational settings.

4           (4) Learning in complex educational systems.

5           (b) AUTHORIZATION OF APPROPRIATIONS.—There  
6           are authorized to be appropriated to the National Science  
7           Foundation for carrying out this section \$29,000,000 for  
8           fiscal year 2002, \$33,000,000 for fiscal year 2003, and  
9           \$37,000,000 for fiscal year 2004.

10   **SEC. 3. RESEARCH ON LEARNING CENTERS.**

11           (a) DEVELOPMENT OF RESEARCH PRIORITIES.—The  
12           Director of the National Science Foundation (in this Act  
13           referred to as the “Director”), in consultation with the  
14           National Academy of Sciences, shall review past research  
15           on learning, assess current research efforts, and not later  
16           than 120 days after the date of the enactment of this Act  
17           develop a set of specific education research priorities to  
18           provide the strategic focus of the Centers established  
19           under subsection (b). The Director shall ensure that the  
20           development of such priorities is informed by the most  
21           pressing needs of the education system.

22           (b) ESTABLISHMENT OF CENTERS.—The Director  
23           shall make grants for the establishment of not more than  
24           5 Centers of Research on Learning. The purpose of these  
25           Centers shall be to integrate the work of multidisciplinary

1 teams of researchers, education practitioners, and policy-  
2 makers to support the research priorities developed under  
3 subsection (a), and to facilitate the incorporation of the  
4 results of that research into educational practice. Grant  
5 awards under this subsection shall be made through an  
6 open, peer-reviewed competition.

7 (c) STRATEGIC FOCUS OF CENTERS.—Each Center  
8 shall focus on addressing one of the specific education re-  
9 search priorities developed by the Director under sub-  
10 section (a).

11 (d) ACTIVITIES OF CENTERS.—The Centers shall  
12 promote active collaborations among physical, biological,  
13 and social science researchers, education practitioners,  
14 and policymakers. The Centers shall be responsible for—

15 (1) evaluating existing research and designing,  
16 conducting, or coordinating research that addresses  
17 the Center’s strategic focus;

18 (2) stimulating research in relevant areas with-  
19 in the larger research community and synthesizing  
20 the findings from among this community;

21 (3) planning future research;

22 (4) facilitating the dissemination of research re-  
23 sults to education practitioners and the incorpora-  
24 tion of those research results into the education sys-  
25 tem; and

1           (5) assessing the impact of the incorporation of  
2       research results described in paragraph (4) on stu-  
3       dent performance.

4       (e) AUTHORIZATION OF APPROPRIATIONS.—There  
5       are authorized to be appropriated to the National Science  
6       Foundation for carrying out this section \$3,000,000 for  
7       fiscal year 2002, \$6,000,000 for fiscal year 2003, and  
8       \$6,000,000 for fiscal year 2004.

9       **SEC. 4. EDUCATION RESEARCH TEACHER FELLOWSHIPS.**

10       (a) ESTABLISHMENT.—The Director shall establish a  
11       program to award grants to institutions of higher edu-  
12       cation or scientific research institutions (or consortia  
13       thereof) to provide fellowships to elementary and sec-  
14       ondary teachers for participation in research programs at  
15       such institutions under the guidance of and in collabora-  
16       tion with researchers at the institutions. Such programs  
17       shall be aimed at giving fellowship recipients a better un-  
18       derstanding of the behavioral, cognitive, affective, and so-  
19       cial aspects of human learning. The purpose of fellowships  
20       under this section shall be to provide the fellowship recipi-  
21       ents with an opportunity to gain knowledge in research  
22       on learning in order to better facilitate the transfer of the  
23       results of that research into the elementary and secondary  
24       education systems.

1 (b) PROGRAM COMPONENTS.—Grant recipients  
2 under this section—

3 (1) shall recruit and select teachers and provide  
4 such teachers with opportunities to conduct research  
5 in the fields of—

6 (A) brain research as a foundation for re-  
7 search on human learning;

8 (B) behavioral, cognitive, affective, and so-  
9 cial aspects of human learning;

10 (C) science and mathematics learning in  
11 formal and informal educational settings; or

12 (D) learning in complex educational sys-  
13 tems;

14 (2) shall ensure that fellowship recipients have  
15 mentors and other programming support to ensure  
16 that their research experience will contribute to their  
17 understanding of the science of learning;

18 (3) shall provide programming, guidance, and  
19 support to ensure that fellowship recipients dissemi-  
20 nate information about the current state of edu-  
21 cation research and its implications on classroom  
22 practice to other elementary and secondary edu-  
23 cators;

24 (4) shall provide fellowship recipients with a  
25 scholarship stipend; and

1           (5) may provide room and board for residential  
2       programs.

3       (c) USE OF FUNDS.—Not more than 25 percent of  
4 the funds provided under a grant under this section may  
5 be used for programming support for fellowship recipients.  
6 The Director shall issue guidelines specifying the min-  
7 imum or maximum amounts of stipends grant recipients  
8 may provide to teachers under this section.

9       (d) DURATION.—A teacher may participate in re-  
10 search under the program under this section for up to 1  
11 calendar year or 2 sequential summers.

12       (e) APPLICATION.—An institution of higher edu-  
13 cation or scientific research institution (or a consortium  
14 thereof) seeking funding under this section shall submit  
15 an application to the Director at such time, in such man-  
16 ner, and containing such information as the Director may  
17 require. The application shall include, at a minimum—

18           (1) a description of the research opportunities  
19       that will be made available to elementary and sec-  
20       ondary school teachers by the applicant;

21           (2) a description of how the applicant will re-  
22       cruit teachers to participate in the program, and the  
23       criteria that will be used to select the participants;



1           (3) a description of the number, types, and  
2           amounts of the scholarships that the applicant in-  
3           tends to offer to participating teachers; and

4           (4) a description of the programming support  
5           that will be provided to participating teachers to en-  
6           hance their research experience and to enable them  
7           to educate their peers about the value, findings, and  
8           implications of education research.

9           (f) REVIEW OF APPLICATIONS.—In evaluating the  
10          applications submitted under subsection (e), the Director  
11          shall consider—

12           (1) the ability of the applicant to effectively  
13           carry out the proposed program;

14           (2) the extent to which the applicant is com-  
15           mitted to making the program a central organiza-  
16           tional focus; and

17           (3) the likelihood that the research experiences  
18           and programming to be offered by the applicant will  
19           improve elementary and secondary education.

20          (g) AUTHORIZATION OF APPROPRIATIONS.—There  
21          are authorized to be appropriated to the National Science  
22          Foundation for carrying out this section \$5,000,000 for  
23          each of fiscal years 2002 through 2004.

1 **SEC. 5. INTERAGENCY EDUCATION RESEARCH INITIATIVE.**

2       There are authorized to be appropriated to the Na-  
3 tional Science Foundation for participation in the Inter-  
4 agency Education Research Initiative, \$28,000,000 for fis-  
5 cal year 2002, \$31,000,000 for fiscal year 2003, and  
6 \$33,000,000 for fiscal year 2004.

○