

SUMMARY DESCRIPTION

Engineering Education for Innovation Act (HR 4709/S 3043) Rep Paul Tonko (D-NY-21/Sen Kirsten Gillebrand (D-NY)

Purposes – To strengthen pre-college math and science teaching by authorizing the Secretary of Education to award planning, implementation and evaluation grants to enable state educational agencies (SEAs) to introduce engineering design concepts and problem solving applications in K-12 classroom curricula and instruction.

Short Title – E2 for Innovation Act

Findings – A recent report from the National Academy of Engineering (Engineering in K-12 Education, 2009) suggests that the introduction of engineering design concepts, systems thinking and practical applications at an early age can improve student learning and achievement in math and science, increase student interest in engineering education and career opportunities and boost technological literacy among K-12 students.

Definitions – Technological literacy means the capacity to use, understand and evaluate technology and to apply concepts and processes to solve problems and reach goals.

Technological literacy encompasses three main areas of understanding: technology and society, engineering design and systems concepts and information and communications technology.

Planning Grants – Authorizes the Secretary of Education, in consultation with the Director of the National Science Foundation, to award planning grants in amounts up to \$1,000,000 over two years to state educational agencies (SEAs) and partners to plan the integration of engineering education into K-12 classrooms.

Authorization - \$50,000,000 (\$12,500,000 per year for four years)

Partnerships – State educational agencies (SEAs) in partnership with institutions of higher education (IHEs), elementary and secondary school administrators and teacher plus STEM business, informal and professional organizations.

Required Activities: Review of resources and programs relevant to K-12 engineering and technology education and development of plans to integrate engineering and technology education into K-12 classrooms.

Implementation Grants – Authorizes the Secretary of Education, in consultation with the Director of the National Science Foundation, to award implementation grants in amounts up to \$10,000,000 over four years to enable state educational agencies to implement innovative engineering and technology education initiatives in K-12 classrooms.

Authorization - \$500,000,000 (\$125,000,000 per year for four years)

Use of Funds – To implement challenging content and achievement standards and curriculum frameworks that include engineering and technology; develop or improve engineering and technology teacher preparation programs; develop assessment tools; create online teaching and learning tools for teachers and students; and/or support after-school engineering and technology education programs.

Benchmarks – Increased student achievement in STEM subjects; knowledge and competency in engineering design skills; numbers of teachers prepared to teach engineering and technology education; and numbers and diversity of students planning to pursue careers in engineering or technology.

Research and Evaluation Grants – Authorizes \$20,000,000 (\$5,000,000 per year for four years) to enable the Institute of Education Sciences to provide research and evaluation grants to assess the effectiveness of the planning and implementation grants.

Best Practices – The Secretary of Education is directed to disseminate the results of evaluations as well as information on best practices.

Total Authorization - \$570,000,000 (\$142,500,000 per year for four years)

House Cosponsors (11) – Rick Boucher (D-VA-09), Michael Capuano (D-MA-08), Bill Foster (D-IL-14), Marcia Fudge (D-OH-11), Gabrielle Giffords (D-AZ-08), Phil Hare (D-IL-17), Mike Honda (D-CA-15), Stephen Lynch (D-MA-09), Eleanor Holmes Norton (D-DC), Steven Rothman (D-NJ-09), and Albio Sires (D-NJ-13).

Senate Cosponsors (8) – Sherrod Brown (D-OH), Roland Burris (D-IL), Maria Cantwell (D-WA), Edward (Ted) Kaufman (D-DE), Amy Klobuchar (D-MN), Patty Murray (D-WA), Chuck Schumer (D-NY) and Olympia Snowe (R-ME)

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