

# MAINE STATE LEGISLATURE

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# 124th MAINE LEGISLATURE

## SECOND REGULAR SESSION-2010

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Legislative Document

No. 1764

S.P. 677

In Senate, February 2, 2010

**Resolve, To Support the Development of Maine's Economic Future  
by Promoting Science, Technology, Engineering and Math  
Education**

(EMERGENCY)

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Reported by Senator ALFOND of Cumberland for the Joint Standing Committee on Education and Cultural Affairs pursuant to Resolve 2009, chapter 98 and ordered printed pursuant to Joint Rule 218.

A handwritten signature in cursive script that reads "Joy J. O'Brien".

JOY J. O'BRIEN  
Secretary of the Senate

1           **Emergency preamble. Whereas,** acts and resolves of the Legislature do not  
2 become effective until 90 days after adjournment unless enacted as emergencies; and

3           **Whereas,** the Maine Department of Education and the University of Maine System  
4 have submitted a report to the Joint Standing Committee on Education and Cultural  
5 Affairs pursuant to Resolve 2009, Chapter 98, "Resolve, To Understand and Assist  
6 Efforts to Promote Science, Technology, Engineering and Math Education"; and

7           **Whereas,** this report on the status of Maine science, technology, engineering and  
8 mathematics learning initiatives notes that limited gains in student scores in mathematics  
9 and science on the National Assessment of Educational Progress, and unfavorable  
10 comparisons to student performance in other countries, are factors that are leading to a  
11 significant focus on science, technology, engineering and mathematics education in the  
12 State and the nation; and

13           **Whereas,** this report proposes that, by conducting a study, the Department of  
14 Education can further promote science, technology, engineering and mathematics  
15 learning initiatives in Maine while assisting Maine in documenting the current efforts  
16 necessary to enable the department to complete a successful application to the federal  
17 Race to the Top competitive grant fund; and

18           **Whereas,** it is necessary to enact this legislation immediately so that the Department  
19 of Education may submit the State's application for the federal Race to the Top  
20 competitive grant program by the deadline of June 2010; and

21           **Whereas,** in the judgment of the Legislature, these facts create an emergency within  
22 the meaning of the Constitution of Maine and require the following legislation as  
23 immediately necessary for the preservation of the public peace, health and safety; now,  
24 therefore, be it

25           **Sec. 1. State plan for science, technology, engineering and mathematics**  
26 **learning. Resolved:** That the Legislature supports the development of a state plan for  
27 the learning of science, technology, engineering and mathematics, in order that the  
28 Department of Education may submit the State application for the federal Race to the Top  
29 competitive grant program established under sections 14005 and 14006 of the federal  
30 American Recovery and Reinvestment Act of 2009 prior to the Phase Two deadline for  
31 applications in June 2010. The Department of Education shall conduct a study to provide  
32 comprehensive baseline data to support State and local efforts to improve science,  
33 technology, engineering and mathematics learning. The department shall use its review  
34 of existing plans related to the following three aspects of the priority on science,  
35 technology, engineering and mathematics, identified by the federal Department of  
36 Education; learning shall be used to develop a strategic plan that addresses the need to:

37           1. Offer a rigorous course of study in mathematics, the sciences, technology, and  
38 engineering;

39           2. Cooperate with industry experts, museums, universities, research centers, and  
40 other community partners to prepare and assist teachers in integrating science,

1 technology, engineering and mathematics content across grades and disciplines, in  
2 promoting effective and relevant instruction, and in offering applied learning  
3 opportunities for students; and

4 3. Prepare more students for advanced study and careers in the sciences,  
5 technology, engineering, and mathematics, including by addressing the needs of  
6 underrepresented groups and of women and girls in the areas of science, technology,  
7 engineering and mathematics.

8 The Department of Education shall consult with educational partners at the University of  
9 Maine System and the Maine Community College System in the development of the  
10 strategic plan to ensure that the State application for the federal Race to the Top  
11 competitive grant program includes a high quality plan that addresses all three aspects of  
12 the science, technology, engineering and mathematics priority established by the United  
13 States Education Department. The Department of Education shall produce the strategic a  
14 plan by May 15, 2010; and be it further

15 **Sec. 2. Department of Education review. Resolved:** That the Department of  
16 Education shall review existing state learning standards for kindergarten to grade 12  
17 public education to determine whether students have sufficient opportunity to develop the  
18 skills and gain the knowledge that will be incorporated as part of a national assessment of  
19 technological literacy beginning in 2012. The Department of Education review must  
20 include an evaluation of the following areas that, as part of the National Assessment of  
21 Educational Progress assessment, the National Assessment Governing Board will include  
22 in its assessment of technological literacy:

23 1. Technology and society; including:

24 A. Interactions of technology and humans;

25 B. Effects of technology on the natural world;

26 C. Effects of technology on the world of information and knowledge; and

27 D. Ethics, equity and responsibility;

28 2. Design and systems, including:

29 A. Nature of technology;

30 B. Engineering design;

31 C. Systems thinking; and

32 D. Maintenance and troubleshooting;

33 3. Information and communication technology, including:

34 A. Construction and exchange of ideas and solutions;

35 B. Information research;

36 C. Investigation of problems;

37 D. Acknowledgement of ideas and information; and

1 E. Selection and use of digital tools; and be it further

2 **Sec. 3. Report. Resolved:** That the Department of Education shall submit a  
3 report by February 1, 2011 to the joint standing committee of the Legislature having  
4 jurisdiction over education matters on the status of the State plan for science, technology,  
5 engineering and mathematics learning prepared pursuant to section 1 and on the review of  
6 state learning standards and opportunities for learning related to technological literacy  
7 pursuant to section 2. The joint standing committee of the Legislature having jurisdiction  
8 over education matters may submit legislation based on the findings and  
9 recommendations of the report submitted by the Department of Education to the First  
10 Regular Session of the 125th Legislature.

11 **Emergency clause.** In view of the emergency cited in the preamble, this  
12 legislation takes effect when approved.

13 **SUMMARY**

14 This legislation is reported out by the Joint Standing Committee on Education and  
15 Cultural Affairs pursuant to the authority granted under Resolve 2009, Chapter 98,  
16 "Resolve, To Understand and Assist Efforts to Promote Science, Technology,  
17 Engineering and Math Education."

18 The resolve directs the Department of Education, in consultation with the University  
19 of Maine System and the Maine Community College System, to conduct a study and  
20 develop a strategic plan for science, technology, engineering and mathematics learning in  
21 preparation for the State application for federal funding under the Race to the Top  
22 competitive grant established under the federal American Recovery and Reinvestment  
23 Act of 2009.

24 The resolve also directs the Department of Education to review existing state learning  
25 standards for kindergarten to grade 12 public education to determine if students have the  
26 opportunity to develop the skills and gain the knowledge that will be incorporated as part  
27 of a national assessment of technological literacy beginning in 2012. The Department of  
28 Education shall submit a report by February 1, 2011 to the joint standing committee of  
29 the Legislature having jurisdiction over education matters on the status of the State plan  
30 for science, technology, engineering and mathematics learning and on the review of state  
31 learning standards and opportunities for learning related to technological literacy. The  
32 joint standing committee of the Legislature having jurisdiction over education matters  
33 may submit legislation based on the findings and recommendations of the report  
34 submitted by the Department of Education to the First Regular Session of the 125th  
35 Legislature.

**FISCAL NOTE REQUIRED**  
**(See attached)**



Approved: 01/29/10 *MAC*

# 124th MAINE LEGISLATURE

LD

LR 2579(01)

**Resolve, To Support the Development of Maine's Economic Future by Promoting Science, Technology,  
Engineering and Math Education**

**Fiscal Note for Original Bill  
Committee: Education and Cultural Affairs  
Fiscal Note Required: Yes**

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## Fiscal Note

Minor cost increase - General Fund

### Fiscal Detail and Notes

Additional costs to the Department of Education to conduct the required study and review, develop the required strategic plan and prepare the required report can be absorbed within existing budgeted resources.

Additional costs to the University of Maine System and the Maine Community College System to consult with the Department of Education in the development of the strategic plan can be absorbed within the existing budgeted resources of each System.