F I S C A L I M P A C T R E P O R T

SPONSOR Nava **ORIGINAL DATE** 02/20/09 **LAST UPDATED** **HB**

SHORT TITLE Teacher Reading, Math & Science Training **SB** 273

ANALYST Haug

APPROPRIATION (dollars in thousands)

Appropriation		Recurring or Non-Rec	Fund Affected
FY09	**FY10**		
	$4,049.5	Recurring	General Fund

(Parenthesis ( ) Indicate Expenditure Decreases)

Relates to HB 322

ESTIMATED ADDITIONAL OPERATING BUDGET IMPACT (dollars in thousands)

	FY09	FY10	FY11	3 Year Total Cost	Recurring or Non-Rec	Fund Affected
Total		$3.9*	$3.9*	$7.8	Recurring	General Fund

(Parenthesis ( ) Indicate Expenditure Decreases)

*****PED Only

SOURCES OF INFORMATION

LFC Files

Responses Received From
Department of Finance and Administration (DFA)
Higher Education Department (HED)
Public Education Department (PED)

SUMMARY

Synopsis of Bill

Senate Bill 273 appropriates $4,049.5 thousand from the general fund to fund training and development of reading, mathematics and science teachers and to promote public awareness of the importance of reading, mathematics and science education. Of the total appropriation,

The PED is appropriated:

> $2,500.0 thousand for a reading, mathematics and science summer professional development program,
> $240.0 thousand for travel expenses for volunteers and incentives to public schools to support subject matter expert volunteers to assist teaching of mathematics and science subjects in public schools and to mentor public school teachers and students in those subjects,
> $60.0 thousand to begin a public awareness campaign to emphasize the importance of mathematics and science education for students and the state.

The HED is appropriated:

> $1,204.5 thousand to revise teacher education programs and create a system of incentives to attract more New Mexico college and university students to elementary and high school mathematics and science teaching careers,
> $45.0 thousand to convene a statewide conference to develop an implementation plan for improving mathematics and science teacher education in New Mexico.

FISCAL IMPLICATIONS

The appropriation of $4,049.5 thousand contained in this bill is a recurring expense to the general fund. Any unexpended or unencumbered balance remaining at the end of Fiscal Year 2010 shall revert to the general fund.

Both the Public Education Department and the Higher Education Department indicate that there will be administrative costs associated with implementing this legislation. The Public Education Department estimates this cost at $3.9 thousand while the HED does not provide an estimate.

According to the February 2009 revenue estimate, FY10 recurring revenue will only support a base expenditure level that is $575 million less than the FY09 appropriations before the 2009 solvency reductions. All appropriations outside of the general appropriation act will be viewed in this declining revenue context.

SIGNIFICANT ISSUES

The PED states:

> The 2006, 2007 and 2008 Legislatures appropriated funds for Reading, Math & Science Summer Institutes. For FY09, the $2,500,000 appropriation was allocated to 17 projects following researched-based *Guidelines for Requesting Funding* issued for FY2008. The SB 273 appropriation would continue this initiative.
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> The appropriation to support subject-matter experts seeks to bring additional resources to improve student achievement. New Mexico has the third-largest per-capita ratio of engineers, mathematicians, and scientists in its workforce of any state in the Union. A recent article evaluating a "scientist in the classroom" model of science outreach intervention found that "K-12 students are engaged in authentic hands-on activities that generate interest in science and new views of science and scientists. Teachers learn new

science content and ways to teach it, and value collegial support of their professional work….[S]cientists…gain…greater understanding of education and diversity issues…”(p.49). (Laursen, S., Liston, C., Thiry, H., &Graf, J. (2007). What good is a scientist in the classroom? Participant outcomes and program design features for a short duration science outreach intervention in K-12 classrooms. *CBE—Life Sciences Education*, 6, 49-64).

New Mexico Project 2012 prepared by the Math and Science Advisory Council (MSAC) has outlined a public awareness program that would work to achieve long-term cultural change in attitudes towards math and science and help students better understand how and why they should get involved in science and math activities. The $60,000 could start this public awareness program.

The appropriation to HED to provide incentives to increase the number of math and science teachers is intended to address a likely shortage of teachers in these fields. For students entering grade 9 in 2009, the high school graduation requirement will increase from three to four math courses, resulting in an increased need for high school math teachers. In a report to the LESC (Nov., 2008), the Math and Science Bureau estimated 100 more high school math teachers will be needed. Furthermore, the average age of currently licensed math and science teachers is 46 and at least 40% are over the age of 50. In 2007-08 New Mexico public universities only prepared 26 new high school math teachers and 27 high school science teachers through their traditional undergraduate and post-bachelors programs. There were also about 30 high school math teachers and 30 high school science teachers that had Intern licenses while working on an Alternative License.

The HED states that it supports the $2,500,000 for math and science teacher professional development which is part of the Governor’s budget proposal; the remainder is consistent with the Department’s strategic priorities and goals.

The HED notes further that NMHED's P-20 Division would collaborate with PED to plan the public awareness campaign, contract with public teacher preparation programs to development incentives to attract more K-12 math and science teachers, and coordinate the conference to plan for improving math and science teacher preparation.

PERFORMANCE IMPLICATIONS

The PED notes that:

This project supports all of the Public School Support Performance Measures (a through g).

It also supports the *Strategic Action Plan for Advancing Math and Science Education in New Mexico*:
Goal 1: Increase student interest, participation, and achievement in math and science.

- Strategy 1.1 Provide all students with challenging curricula, engaging instruction…that encourage real world, inquiry-based problem solving;
- Strategy 1.3 Strengthen the content and pedagogical knowledge, and leadership skills of math and science educators…

Goal 2: Raise public support and awareness of the importance of science and math to New Mexico's economic health and security.
Strategy 2.1 Create a marketing and media campaign to raise public understanding, interest, and enthusiasm for math and science.

According to the HED, improved achievement in math and science at the K-12 level would assist the NMHED in achieving its goals of increased degree attainment and student success.

RELATIONSHIP

Senate Bill 273 relates to House Bill 322 which proposes to implement the MSAC recommendation to increase the math content requirement for elementary teachers.

GH/svb