

**LEGISLATIVE EDUCATION STUDY COMMITTEE
BILL ANALYSIS**

Bill No: HB 220

48th Legislature, 1st Session, 2007

Short Title: Mathematics & Science Education Act

Sponsor(s): Representatives John A. Heaton, Janice Arnold-Jones, and W. Ken Martinez

Analyst: Peter van Moorsel

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FOR THE LEGISLATIVE EDUCATION STUDY COMMITTEE

Bill Summary:

HB 220 creates, in statute, the Mathematics and Science Bureau in the Public Education Department (PED) and prescribes its duties; creates the Mathematics and Science Advisory Council and prescribes its duties; and establishes the Mathematics and Science Proficiency Fund, a non-reverting fund in the state treasury and sets criteria for the disbursement and administration of funds, and application for awards from the fund.

Money is appropriated from the fund to PED to provide awards based on an RFP process to public schools, school districts, public postsecondary educational institutions, and persons that develop or implement innovative, research-based mathematics and science curricula and professional development programs. Each award recipient must provide an annual report to the bureau chief that includes a detailed budget report, a description of the services provided, and documented evidence of the stated outcomes of the funded program.

Duties of the Mathematics and Science Bureau include:

- administering the provisions of the *Mathematics and Science Education Act*;
- coordinating and working with the Mathematics and Science Advisory Council to develop a statewide strategic plan for mathematics and science education in the public schools;
- coordinating education activities with other state agencies, the federal government, business consortia and public or private organizations or other persons;
- promoting partnerships among public schools, institutions of higher education (IHEs), government, business and educational and community organizations to improve the mathematics and science education in the state; and
- evaluating the quality of mathematics and science initiatives funded by the bureau.

The Mathematics and Science Advisory Council is composed of 12 members who serve staggered four-year terms. The members are recruited via a statewide application process, and appointed by the Secretary of Education so as to ensure representation of New Mexico's demographic composition. Council duties include:

- advising the bureau on implementation of the bureau's duties pursuant to the *Mathematics and Science Education Act*;
- making recommendations to the bureau and the department regarding the bureau's strategic plan for improving mathematics and science education;

- making recommendations regarding appropriations for mathematics and science education, including programs for public school students and staff professional development; and
- producing an annual report on public elementary and secondary mathematics and science student achievement to be submitted to the department, the Governor, and the Legislature.

Fiscal Impact:

\$4.12 million is appropriated from the General Fund for FY 08, of which:

- \$3.0 million is allocated to the Math and Science Proficiency Fund to carry out the provisions of the *Mathematics and Science Education Act*.
- \$620,000 is allocated to PED, of which:
 - \$120,000 is allocated to work with national laboratories and other federal science-related facilities and science and technology businesses to facilitate the creation of internships for high school students and to help place student interns, and
 - \$500,000 is allocated to work with the IHEs and the Mathematics and Science Advisory Council to increase the rigor of mathematics and science courses in teacher preparation programs.
- \$500,000 is allocated to the State Parks Division of the Energy, Minerals, & Natural Resources Department to support a statewide outdoor classroom program.

With the exception of the appropriation to the Mathematics and Science Proficiency Fund, these appropriations contain a reversion clause.

The *General Appropriation Act of 2006* included two Math and Science appropriations to PED, a recurring appropriation of \$699,300 (after sanding) to fund *Summer Reading, Math and Science Institutes*, and a \$1.0 million nonrecurring appropriation to fund *Summer Institutes for Reading and Math*.

Issues:

- In 2006, the Legislature appropriated \$250,000 to PED to establish a Math and Science Bureau. During testimony before the Legislative Education Study Committee (LESC) during the 2006 interim, PED reported that the bureau had been created with five FTEs: a bureau chief, a mathematics specialist, a science specialist, a researcher/analyst, and an administrative assistant.
- During further testimony before the LESC in 2006, the bureau chief highlighted the Mathematics and Science Bureau’s workplan, which included:
 - working with the Assessment and Accountability division of PED to improve the New Mexico Standards Based Assessment;
 - providing assistance to schools and school districts in implementing science materials and selecting math materials;
 - developing “guidance documents” for instructional material selection;
 - developing baseline data documents on math and science achievement to evaluate the effects of math and science summer academies and other programs;
 - monitoring federal Math and Science Partnerships (MSPs) and math and science academies;

- working with New Mexico State Parks on outdoor classroom projects;
 - preparing students to perform better in algebra;
 - encouraging professional development programs that involve all of a school or district's math and science teachers; and
 - exploring the role of after-school math and science programs.
- The duties and goals of the Mathematics and Science Bureau coincide with the federal commitment to improving mathematics and science education, as reported in the National Academy of Sciences report, "Rising Above the Gathering Storm," which explains that the United States must optimize its knowledge-based resources, particularly in science and technology. This report, commissioned by Senator Jeff Bingaman and others, recommends to "increase America's talent pool by vastly improving K-12 science and mathematics education." An action step of this report is to "strengthen the skills of 250,000 teachers through training and education programs at summer institutes... and thus inspire students every day." Other federal legislation makes available funding to programs that create partnerships involving national laboratories or IHEs and public schools.
 - During the 2005 interim, PED and the State Parks Division presented their report, *Making Schools Work Outdoors: Educación al Aire Libre*, and testified about their focus on the Outdoor Classroom Initiative, which has the potential to connect 326,000 public school students with 33 existing outdoor classrooms in state parks in a program to improve students' academic achievement and encourage their stewardship of natural resources.
 - The report recommended increasing school visits to parks and parks visits to schools, tying State Parks Division programming to public school curriculum, augmenting training for teachers and state parks staff, augmenting outdoor supplies and teaching materials, evaluating programming to ensure increases in academic achievement, and cultivating outdoor education partnerships with other state agencies.
 - Testimony before the LESC during the 2006 interim included a presentation from the State Parks Division which requested funding for the Outdoor Classroom Initiative. Testimony included an explanation of the benefits of outdoor classroom projects, citing increased interest in nature and health benefits, and increased academic performance of students.
 - In 2006, the LESC recommended \$250,000 in funding for the Outdoor Classroom Initiative, and has recommended an appropriation of \$500,000 for the program for FY 08.

Related Bills:

HB 20 *Santa Fe Teacher Science Instruction*
 HB 45 *NM Tech Summer Science Program* (identical to SB 75)
 HB 109 *NMSU Science, Technology & Math Outreach*
 HB 111 *Science Education & Teacher Outreach Program*
 HB 129 *Middle School Teacher Science & Math Training* (identical to SB 140)
 HB 147 *Minority Pre-college Student Math & Sciences*
 HB 369 *Outdoor Classroom Program*
 SB 24 *NMSU Science, Technology & Math Programs*
 SB 75 *NM Tech Summer Science Program* (identical to HB 45)
 SB 140 *Middle School Teacher Science & Math Training* (identical to HB 129)
 SB 256 *Northern New Mexico Network*