

**LEGISLATIVE EDUCATION STUDY COMMITTEE
BILL ANALYSIS**

Bill Number: CS/HB 258

51st Legislature, 2nd Session, 2014

Tracking Number: .196834.1

Short Title: Science & Math Teacher Development

Sponsor(s): Representative Mimi Stewart

Analyst: David Craig

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**HOUSE EDUCATION COMMITTEE SUBSTITUTE
FOR HOUSE BILL 258**

Bill Summary:

CS/HB 258:

- makes an appropriation and creates a new section within the *Mathematics and Science Education Act* in the *Public School Code* to provide for professional development of science and mathematics teachers; and
- expands the duties of the Mathematics and Science Advisory Council.

Among its provisions, the bill:

- defines “eligible entities” as public schools, school districts, charter schools, postsecondary educational institutions, nonprofit organization, tribal organizations, or coalitions of such entities;
- requires the Public Education Department (PED) to:
 - provide a process that allows eligible entities to apply and receive grants from the Mathematics and Science Proficiency Fund to support professional development for mathematics and science teachers;
 - consider the recommendations of the Mathematics and Science Advisory Council (council) for a professional development framework, grant selection criteria, evaluation, and reporting requirements;
 - make the final grant award selection decisions; and
 - by December 2015 to report to the Legislative Education Study Committee (LESC) on the progress of the professional development framework, grant process , and annual grant applications and awards; and
- expands the council’s duties to:
 - consult with the New Mexico Partnership for Math and Science¹ and make recommendations to PED for the development of criteria, process, and evaluation of awards from the Mathematics and Science Proficiency Fund;

¹ According to their website, the New Mexico Partnership for Math and Science Education is a statewide membership organization representing institutions and projects involved in science, technology, engineering, and

- make recommendations on evaluating and ranking grant applications; and
- no later than November 1, produce an annual report, to include:
 - PED’s progress on the development of the grant process;
 - the number of applications received and awards granted for professional development of mathematics and science teachers; and
 - annual reports required to be submitted by grant recipients from the Mathematics and Science Proficiency Fund.

Fiscal Impact:

\$500,000 is appropriated from the General Fund to the Mathematics and Science Proficiency Fund for FY 15 and subsequent years. Any unexpended or unencumbered balance shall not revert to the General Fund.

Fiscal Issues:

CS/HB 2 et al., *General Appropriations Act of 2014*, contains:

- \$2.0 million for the science, technology, engineering, and mathematics (STEM) initiative; of which
- \$500,000 is for professional development for mathematics and science teachers statewide.

Substantive Issues:

According to the council’s 2013 annual report, the Math and Science Bureau and the Math and Science Advisory Council have identified some of the state’s pressing educational needs:

- Address the achievement gap of Hispanic, Native, and African-American students in math and science.
- Adopt the Next Generation Science Standards (NGSS). NGSS integrates content knowledge as well as science and engineering practices across all grades in learning progressions that will equip all students with the science literacy needed for college- and career-readiness.
- Provide adequate funding for successful implementation of the NGSS, which includes sustainable statewide professional development in science following the adoption of NGSS and throughout its implementation.
- Adopt improved professional development standards needed to ensure that all of New Mexico’s teachers receive high-quality professional development.

mathematics (STEM) education. This group is a member of the National Alliance of State Science and Mathematics Coalitions which is an “umbrella organization for state coalitions of business, education, and public policy leaders united for systemic change in STEM education for all students.”

- Provide regional support for math and science, especially in rural areas, by expanding on existing programs that have infrastructure in place, such as Mathematically Connected Communities (MC2), New Mexico Mathematics, Engineering and Science Achievement (NM MESA), Los Alamos National Laboratory (LANL) Foundation Inquiry Science Education Consortium (ISEC), and the LANL Math and Science Academy (MSA).
- Increase science instructional time at the elementary level through inclusion of science on the Educational Program for Student Success (EPSS).
- Target math and science interventions by disaggregating the data to determine the areas of math and science where students fall behind.
- Use proven active-learning strategies and hands-on research to nurture student interest in STEM subjects at K-12 and college levels. Support future teachers, current teachers, and professors in developing the ability to use these techniques instead of relying on lecturing.
- Continue to implement the Common Core State Standards in Math (CCMS) effectively, with significant involvement from educators, adequate professional support, and effective classroom tools.
- Continue teacher professional development for math teachers on the CCMS and Partnership for Assessment of Readiness for College and Careers (PARCC) assessments aligned to those standards. In addition, students need the opportunity to have ample practice justifying math answers and composing their justifications in a written format.
- Involve industry in STEM education at every opportunity, including K-12 classrooms, colleges of education that are preparing future math and science teachers, recruitment of university STEM majors, and development of industry-relevant curricula.
- Cultivate interest in STEM through collaboration with informal science education networks in order to provide quality math and science activities outside the formal classroom. Informal science education includes museums, parks, after school programs, and community events.
- Break out of silos and create collaborations between government agencies, school districts, colleges and universities, departments, industry, unions, and other groups who may tend to work in isolation.
- Increase funding for the Math and Science Bureau in order to provide adequate support to schools and to develop infrastructure to support STEM learning.

Background:

During the 2007 regular session, LESC-endorsed legislation was enacted to create the *Mathematics and Science Education Act* to:

- establish a Mathematics and Science Bureau in the PED;
- create the Mathematics and Science Advisory Council;

- establish the Mathematics and Science Proficiency Fund, a non-reverting fund in the state treasury; and
- set criteria for the disbursement and administration of funds, and application for awards from the fund.

Committee Referrals:

HEC/HAFC

Related Bills:

HB 219 *NMSU Science, Math & Tech Outreach Program*

HB 245 *African American Science & Math Bridge Pgm*

HM 19 *“NM STEM Education Week in the House”*

*SB 161 *Science Early Education Program*

SM 13 *“New Mexico MESA Day”*

SM 38 *“NM STEM Education Week”*

ARTICLE 15E
Mathematics and Science Education Act

Section

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22-15E-1. Short title.

This act [Chapter 22, Article 15E NMSA 1978] may be cited as the "Mathematics and Science Education Act".

History: Laws 2007, ch. 44, § 1; 2007, ch. 239, § 1.

Compiler's notes. — Laws 2007, ch. 44 and Laws 2007, ch. 239, effective June 15, 2007, enacted duplicate laws.

22-15E-2. Definitions.

As used in the Mathematics and Science Education Act:

- A. "bureau" means the mathematics and science bureau;
- B. "chief" means the chief of the bureau; and
- C. "council" means the mathematics and science advisory council.

History: Laws 2007, ch. 44, § 2; 2007, ch. 239, § 2.

Compiler's notes. — Laws 2007, ch. 44 and Laws 2007, ch. 239, effective June 15, 2007, enacted duplicate laws.

22-15E-3. Bureau created; duties.

A. The "mathematics and science bureau" is created in the department. The secretary shall appoint the chief as provided in the Public Education Department Act [Chapter 9, Article 24 NMSA 1978].

B. The bureau shall:

- (1) administer the provisions of the Mathematics and Science Education Act;
- (2) provide staff support for and coordinate the activities of the council;
- (3) work with the council to develop a statewide strategic plan for mathematics and

science education in the public schools and coordinate education activities with other state agencies, the federal government, business consortia and public or private organizations or other persons;

(4) ensure that school districts' plans include goals for improving mathematics and science education aligned to the department's strategic plan;

(5) recommend funding mechanisms that support the improvement of mathematics and science education in the state, including web-based mathematics and science curricula, mentoring and web-based homework assistance;

(6) promote partnerships among public schools, higher education institutions, government, business and educational and community organizations to improve the mathematics and science education in the state;

(7) develop and evaluate curricula, instructional programs and professional development programs in mathematics and science aligned with state academic content and performance standards; and

(8) assess the outcomes of efforts to improve mathematics and science education using existing data.

History: Laws 2007, ch. 44, § 3; 2007, ch. 239, § 3.

Compiler's notes. — Laws 2007, ch. 44 and Laws 2007, ch. 239, effective June 15, 2007, enacted duplicate laws.

22-15E-4. Mathematics and science advisory council; created; members; terms; vacancies.

A. The "mathematics and science advisory council" is created, composed of twelve members. Members of the council shall be appointed by the secretary for staggered terms of four years; provided that for the initial appointments, four members shall be appointed for two years, four members shall be appointed for three years and four members shall be appointed for four years. Members shall serve until their successors have been appointed and qualified. A vacancy shall be filled by appointment by the secretary for the unexpired term.

B. Using a statewide application process, the secretary shall appoint members from throughout the state so as to ensure representation of the state's demographics, including geographic distribution, gender and ethnic diversity and as follows:

(1) four members from public schools, including at least two mathematics and science teachers and a school district administrator with experience in mathematics and science curricula;

(2) three members from public post-secondary educational institutions with expertise in mathematics or science education;

(3) four members from the private sector, including the national laboratories, museums and science- and engineering-based businesses; and

(4) one member who represents the New Mexico partnership for mathematics and science education.

C. Members of the council shall elect a chair from among the membership. The council shall meet at the call of the chair not less than quarterly.

D. Members of the council are entitled to receive per diem and mileage pursuant to the provisions of the Per Diem and Mileage Act [10-8-1 through 10-8-8 NMSA 1978] but shall receive no other compensation, perquisite or allowance.

History: Laws 2007, ch. 44, § 4; 2007, ch. 239, § 4.

Compiler's notes. — Laws 2007, ch. 44 and Laws 2007, ch. 239, effective June 15, 2007, enacted duplicate laws.

22-15E-5. Council duties.

The council shall:

A. advise the bureau on implementation of the bureau's duties pursuant to the Mathematics and Science Education Act;

B. make recommendations to the bureau and the department regarding the statewide strategic plan for improving mathematics and science education and advise on its implementation and incorporation into the department's five-year strategic plan for public elementary and secondary education in the state;

C. advise the bureau, the department and the legislature regarding appropriations for mathematics and science education, administration, resources and services, including programs for public school students and staff;

D. work with the bureau to determine the need for improvement in mathematics and science achievement of public school students and make recommendations to the department on how to meet these needs; and

E. produce an annual report on public elementary and secondary mathematics and science student achievement to be submitted to the department, the governor and the legislature no later than November 30 of each year.

History: Laws 2007, ch. 44, § 5; 2007, ch. 239, § 5.

Compiler's notes. — Laws 2007, ch. 44 and Laws 2007, ch. 239, effective June 15, 2007, enacted duplicate laws.

22-15E-6. Mathematics and science proficiency fund; created; purpose; annual reports.

A. The "mathematics and science proficiency fund" is created as a nonreverting fund in the state treasury. The fund consists of appropriations, gifts, grants, donations and income from

investment of the fund. Disbursements from the fund shall be made by warrant of the secretary of finance and administration pursuant to vouchers signed by the secretary of public education or the secretary's authorized representative.

B. The fund shall be administered by the department, and money in the fund is appropriated to the department to provide awards to public schools, school districts, public post-secondary educational institutions and persons that implement innovative, research-based mathematics and science curricula and professional development programs. The department shall promulgate rules for the application and award of money from the fund, including criteria to evaluate innovative, research-based mathematics and science programs and professional development programs.

C. Each award recipient shall provide an annual report to the bureau that includes a detailed budget report, a description of the services provided and documented evidence of the stated outcomes of the program funded by the mathematics and science proficiency fund and that provides other information requested by the bureau.

History: Laws 2007, ch. 44, § 6; 2007, ch. 239, § 6.

Compiler's notes. — Laws 2007, ch. 44 and Laws 2007, ch. 239, effective June 15, 2007, enacted duplicate laws.