

**LEGISLATIVE EDUCATION STUDY COMMITTEE  
BILL ANALYSIS**

**Bill Number: \*SB 111a**

**52nd Legislature, 2nd Session, 2016**

**Tracking Number: .203014.1**

**Short Title: Science Early Education Program**

**Sponsor(s): Senators Mary Kay Papen and Gay G. Kernan**

**Analyst: Christina McCorquodale**

**Date: February 11, 2016 (Revised)**

---

**AS AMENDED**

**The Senate Education Committee amendments:**

- **remove the appropriation and make corresponding changes to the title of the bill;**
- **remove sixth grade from participating in the Science Early Education Program; and**
- **replace “the department” with “a school district” as the agency administering the program.**

**Original Bill Summary:**

\*SB 111 adds new sections to the *Public School Code* to create the Science Early Education Fund and a Science Early Education Program as a five-year pilot project based on three-year student cohorts in sixth through eighth grades that incorporates hands-on, age-appropriate physics education into sixth through eighth grade curricula. The Science Early Education Program will enhance students’ academic performance in science and mathematics. The fund consists of appropriations, gifts, grants, donations, and income from investment of the fund. The bill appropriates \$250,000 from the General Fund to the Early Science Education Fund for expenditure in FY16 through FY21.

\* The bill declares an emergency.

**Fiscal Impact (Revised):**

The bill appropriates \$250,000 from the General Fund to the Science Early Education Fund for expenditure in FY16 through FY21. Any unexpended or unencumbered balance remaining at the end of FY21 shall revert to the General Fund.

The *General Appropriation Act of 2015* appropriated \$2.4 million to the Public Education Department (PED) for the science, technology, engineering, and mathematics (STEM) initiative for FY16. This appropriation included \$1.0 million for professional development of mathematics and science teachers statewide. House Appropriations and Finance Committee Substitute for HB 2 & 4, which was adopted by the House, appropriates \$2.4 million for STEM initiative for FY17.

The bill requires schools that participate to provide one-half of the funding for the program.

### **At a Glance:**

- The bill focuses on physics education for students in grades 6 through 8.
- Students will benefit from the opportunity to engage in hands-on, age appropriate physics education.
- Students are to be assessed for program efficacy, but this may add another assessment to the students' testing schedule.

### **Original Detailed Bill Provisions:**

\*SB 111 adds a new section in the *Public School Code* to create the Science Early Education Program, a five-year pilot project based on three-year student cohorts in sixth through eighth grades that incorporates hands-on, age appropriate physics education into sixth through eighth grade curricula.

The bill requires PED to administer the program, as well as develop a contract with an organization that provides professional development and materials for teachers to introduce physics education into sixth through eighth grade curricula.

School districts may apply for funds through a PED application process, and the department is required to select schools that qualify, but funds are available for no more than 10 schools. In the selection process, PED is required to consider schools that are distinct from each other in urban or rural character, location, and concentration of poverty.

The bill requires that students who participate are evaluated at the beginning and end of the program and that students' progress is monitored through standardized assessments. PED is also required to establish reporting and evaluation requirements for schools participating in the Science Early Education Program. At the end of the each year, PED is required to provide a final report to the Legislature and governor on the efficacy of the program.

New language in the *Public School Code* also creates the Science Early Education Fund that is created in the State Treasury. The fund consists of appropriations, gifts, grants, donations, and income from investment of the fund. PED is allowed to seek private and public grants, as well as donations that are to be deposited in the fund. Provisions require fund balances revert to the General Fund at the end of the program, unless otherwise specified by the terms of a grant or donation.

### **Substantive Issues:**

The bill does not specify which standardized assessments are to be used to monitor progress of students participating in the program. PED indicates the current New Mexico Standards Based Assessment in science is only administered to students in fourth, seventh, and 11<sup>th</sup> grade.

The bill requires that students are assessed at the beginning and end of each program year to determine program efficacy, but PED states these pre- and post-tests are required for the program but are not currently mandated by the department.

## **Technical Issues:**

On page 2, line 19 through 22, \*SB 111 requires that students participating in the program be evaluated at the beginning of the program. However, the program is a five-year pilot that fully covers at least three student cohorts. It is unclear how two of those cohorts would be evaluated at the beginning of the program itself when those students are in fourth and fifth grade.

## **Background:**

### ***New Mexico Science Content Standards, Benchmarks, and Performance Standards***

The current science standards include science content standards, benchmarks, and performance standards that specify benchmarks for each of three grade bands (Kindergarten through fourth, fifth through eighth, and ninth through 12<sup>th</sup>); articulate grade-specific performance standards, describing how students will demonstrate mastery of each benchmark at each grade; and are organized into three strands:

- **Strand 1: Scientific Thinking and Practice:** to understand the processes of scientific investigations and use inquiry and scientific ways of observing, experimenting, predicting, and validating to think critically;
- **Strand 2: Content of Science,** for:
  - *Physical Science:* to understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy;
  - *Life Science:* to understand the properties, structures, and processes of living things and the interdependence of living things and their environments; and
  - *Earth and Space Science:* to understand the structure of Earth, the solar system, and the universe, the interconnections among them, and the processes and interactions of Earth's systems; and
- **Strand 3: Science and Society:** to understand how scientific discoveries, inventions, practices, and knowledge influence, and are influenced by individuals and societies.

## **Related Bills:**

SB 207 *ENMU STEM-H Student Success Center*

HB 245 *Pre-College Minority Student STEM Programs*