SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS AMENDMENTS

2014 GENERAL SESSION

STATE OF UTAH

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LONG TITLE

General Description:

This bill amends and enacts provisions relating to the Science, Technology, Engineering, and Mathematics Action Center.

Highlighted Provisions:

This bill:

- defines terms;
- adds members to the STEM Action Center Board;
- allows the STEM Action Center Board to create a foundation;
- specifies that the STEM Action Center shall support high quality professional development for educators related to STEM education in kindergarten through grade 12;
- allows the STEM Action Center to further STEM education with nontechnological means;
- expands the scope of the STEM education related technology program to more students;
- creates the STEM education endorsements and incentive program, and requires the State Board of Education to make rules regarding the endorsements;
- requires the STEM Action Center to select technology providers to create a certain professional development application;
- requires the STEM Action Center to create in-person STEM education high quality professional development;
- creates the STEM education middle school applied science initiative;
- creates the high school STEM education initiative; and
- makes technical changes.

Money Appropriated in this Bill:

This bill appropriates in fiscal year 2015:

- to the Governor's Office of Economic Development - STEM Action Center, as an ongoing appropriation:
  - from the General Fund, $5,000,000; and
- to the Governor's Office of Economic Development - STEM Action Center, as a one-time appropriation:
  - from the General Fund, $15,000,000.

Other Special Clauses:

This bill provides an effective date.

Utah Code Sections Affected:

AMENDS:

63M-1-3201, as enacted by Laws of Utah 2013, Chapter 336

63M-1-3202, as enacted by Laws of Utah 2013, Chapter 336

63M-1-3203, as enacted by Laws of Utah 2013, Chapter 336

63M-1-3204, as enacted by Laws of Utah 2013, Chapter 336

63M-1-3205, as enacted by Laws of Utah 2013, Chapter 336

63M-1-3207, as enacted by Laws of Utah 2013, Chapter 336

ENACTS:

63M-1-3208, Utah Code Annotated 1953

63M-1-3209, Utah Code Annotated 1953

63M-1-3210, Utah Code Annotated 1953

63M-1-3211, Utah Code Annotated 1953

Be it enacted by the Legislature of the state of Utah:

Section 1. Section **63M-1-3201** is amended to read:

63M-1-3201. Definitions.

As used in this part:

(1) "Board" means the STEM Action Center Board created in Section 63M-1-3202.

(2) "Educator" has the meaning defined in Section 53A-6-103.

(3) "High quality professional development" means professional development that meets high quality standards developed by the State Board of Education.

[~~(3)~~] (4) "Office" means the Governor's Office of Economic Development.

[~~(4)~~] (5) "Provider" means a provider, selected by staff of the board and staff of the Utah State Board of Education, on behalf of the board:

(a) through a request for proposals process; or

(b) through a direct award or sole source procurement process for a pilot described in

Section 63M-1-3205.

[~~(5)~~] (6) "STEM" means science, technology, engineering, and mathematics.

[~~(6)~~] (7) "STEM Action Center" means the center described in Section 63M-1-3204.

Section 2. Section **63M-1-3202** is amended to read:

63M-1-3202. STEM Action Center Board creation -- Membership.

(1) There is created the STEM Action Center Board within the office, composed of the following members:

(a) [~~five~~] six private sector members who represent business, appointed by the governor;

(b) the state superintendent of public instruction or the state superintendent of public instruction's designee;

(c) the commissioner of higher education or the commissioner of higher education's designee;

(d) one member appointed by the governor;

(e) a member of the State Board of Education, chosen by the chair of the State Board of Education;

(f) the executive director of the Governor's Office of Economic Development or the executive director of the Governor's Office of Economic Development's designee; [~~and~~]

(g) the president of the Utah College of Applied Technology or the president of the Utah College of Applied Technology's designee[~~.~~]; and

(h) one member who has a degree in engineering and experience working in a government military installation, appointed by the governor.

(2) (a) The private sector members appointed by the governor in Subsection (1)(a) shall represent a business or trade association whose primary focus is science, technology, or engineering.

(b) Except as required by Subsection (2)(c), members appointed by the governor shall be appointed to four-year terms.

(c) The length of terms of the members shall be staggered so that approximately half of

the committee is appointed every two years.

(d) The members may not serve more than two full consecutive terms except where the governor determines that an additional term is in the best interest of the state.

(e) When a vacancy occurs in the membership for any reason, the replacement shall be appointed for the unexpired term.

(3) Attendance of a simple majority of the members constitutes a quorum for the transaction of official committee business.

(4) Formal action by the committee requires a majority vote of a quorum.

(5) A member may not receive compensation or benefits for the member's service, but may receive per diem and travel expenses in accordance with:

(a) Section 63A-3-106;

(b) Section 63A-3-107; and

(c) rules made by the Division of Finance pursuant to Sections 63A-3-106 and 63A-3-107.

(6) The governor shall select the chair of the board to serve a one-year term.

(7) The executive director of the Governor's Office of Economic Development or the executive director of the Governor's Office of Economic Development's designee shall serve as the vice chair of the board.

[~~(8) The state science advisor described in Section 63M-1-606 and the office shall provide staff support to the board.~~]

Section 3. Section **63M-1-3203** is amended to read:

63M-1-3203. STEM Action Center Board -- Duties.

(1) The board shall:

(a) establish a STEM Action Center program to:

(i) coordinate STEM activities in the state among the following stakeholders:

(A) the State Board of Education;

(B) school districts and charter schools;

(C) the State Board of Regents;

(D) institutions of higher education;

(E) parents of home-schooled students; and

(F) other state agencies;

(ii) align public education STEM activities with higher education STEM activities; and

(iii) create and coordinate best practices among public education and higher education;

(b) with the consent of the Senate, appoint an executive director to oversee the administration of the STEM Action Center;

(c) select a physical location for the STEM Action Center;

(d) strategically engage industry and business entities to cooperate with the board:

(i) to support high quality professional development and provide other assistance for educators and students; and

(ii) to provide private funding and support for the STEM Action Center;

(e) give direction to the STEM Action Center and the providers selected through a request for proposals process pursuant to this part; and

(f) work to meet the following expectations:

(i) that at least 50 educators are implementing best practice learning tools in classrooms per each product specialist or manager working with the STEM Action Center;

(ii) performance change in student achievement in each classroom working with a STEM Action Center product specialist or manager; and

(iii) that students from at least 50 high schools participate in the STEM competitions, fairs, and camps described in Subsection 63M-1-3204(2)(d).

(2) The board may:

(a) enter into contracts for the purposes of this part;

(b) apply for, receive, and disburse funds, contributions, or grants from any source for the purposes set forth in this part;

(c) employ, compensate, and prescribe the duties and powers of individuals necessary to execute the duties and powers of the board;

(d) prescribe the duties and powers of the STEM Action Center providers; and

(e) in accordance with Title 63G, Chapter 3, Utah Administrative Rulemaking Act, make rules to administer this part.

(3) The board may establish a foundation to assist in:

(a) the development and implementation of the programs authorized under this part to promote STEM education; and

(b) implementation of other STEM education objectives described in this part.

(4) A foundation established by the board under Subsection (3):

(a) may solicit and receive contributions from a private organization for STEM education objectives described in this part;

(b) shall comply with Title 51, Chapter 7, State Money Management Act;

(c) does not have power or authority to incur contractual obligations or liabilities that constitute a claim against public funds;

(d) may not exercise executive or administrative authority over the programs or other activities described in this part, except to the extent specifically authorized by the board;

(e) shall provide the board with information detailing transactions and balances of funds managed for the board; and

(f) may not:

(i) engage in lobbying activities;

(ii) attempt to influence legislation; or

(iii) participate in any campaign activity for or against:

(A) a political candidate; or

(B) an initiative, referendum, proposed constitutional amendment, bond, or any other ballot proposition submitted to the voters.

(5) Money donated to a foundation established under Subsection (3) may be accounted for in an expendable special revenue fund.

Section 4. Section **63M-1-3204** is amended to read:

63M-1-3204. STEM Action Center.

(1) As funding allows, the board shall:

(a) establish a STEM Action Center;

(b) ensure that the STEM Action Center:

(i) is accessible by the public; and

(ii) includes the components described in Subsection (2);

(c) work cooperatively with the State Board of Education to [~~acquire technology and select schools~~]:

(i) further STEM education; and

(ii) ensure best practices are implemented as described in Sections 63M-1-3205 and 63M-1-3206; and

(d) engage private entities to provide financial support or employee time for STEM activities in schools in addition to what is currently provided by private entities.

(2) As funding allows, the executive director of the STEM Action Center shall:

(a) support high quality professional development for educators regarding [~~education related instructional technology that supports~~] STEM education;

(b) ensure that the STEM Action Center acts as a research and development center for STEM education [~~related instructional technology acquired~~] through a request for proposals process described in Section 63M-1-3205;

(c) review and acquire STEM education related [~~technology~~] materials and products for:

(i) [~~educator~~] high quality professional development;

(ii) assessment, data collection, analysis, and reporting; and

(iii) public school instruction;

(d) facilitate participation in interscholastic STEM related competitions, fairs, [~~and~~] camps, and STEM education activities;

(e) engage private industry in the development and maintenance of the STEM Action Center and STEM Action Center projects;

(f) use resources to bring the latest STEM education learning tools into public education classrooms;

(g) identify at least 10 best practice innovations used in Utah [~~schools~~] that have resulted in at least 80% of students performing at grade level in STEM areas;

(h) identify best practices being used outside the state and, as appropriate, develop and implement selected practices through a pilot program;

(i) identify:

(i) [~~three~~] learning tools for kindergarten through grade 6 identified as best practices; and

(ii) [~~three~~] learning tools [~~per STEM subject~~] for grades 7 through 12 identified as best practices;

(j) provide a Utah best practices database, including best practices from public education, higher education, the Utah Education Network, and other STEM related entities;

(k) keep track of the following items related to the best practices database described in Subsection (2)(j):

(i) how the best practices database is being used; and

(ii) how many individuals are using the database, including the demographics of the users, if available;

(l) as appropriate, join and participate in a national STEM network;

(m) identify performance changes linked to use of the best practices database described in Subsection (2)(j);

(n) work cooperatively with the State Board of Education to designate schools as STEM schools, where the schools have agreed to adopt a plan of STEM implementation in alignment with criteria set by the State Board of Education and the board;

(o) support best methods of high quality professional development[;] for STEM education in kindergarten through grade 12, including methods of high quality professional development that reduce cost and increase effectiveness, to help educators learn how to most effectively implement best practice learning tools in classrooms;

(p) recognize a high school's achievement in the STEM competitions, fairs, and camps described in Subsection (2)(d);

(q) send student results from STEM competitions, fairs, and camps described in Subsection (2)(d) to media and ask the media to report on them;

(r) develop and distribute STEM [~~toolkits~~] information to parents of students being served by the STEM Action Center;

(s) support targeted high quality professional development for improved instruction in STEM [~~in grades 6, 7, and 8~~] education, including:

(i) improved instructional materials that are dynamic and engaging for students;

[~~(ii) targeted instruction for students who traditionally avoid enrolling in STEM courses;~~]

[~~(iii) introduction of engaging engineering courses; and~~]

(ii) use of applied instruction; and

[~~(iv)~~] (iii) introduction of other research-based methods that support student achievement in STEM areas; and

(t) ensure that an online college readiness assessment tool be accessible by:

(i) public education students; and

(ii) higher education students.

(3) The board may prescribe other duties for the STEM Action Center in addition to the responsibilities described in this section.

(4) (a) The executive director shall track and compare the student performance of students participating in a STEM Action Center program to all other similarly situated students in the state, in the following STEM related activities, at the beginning and end of each year:

(i) public education high school graduation rates;

(ii) the number of students taking a remedial mathematics course at an institution of higher education described in Section 53B-2-101;

(iii) the number of students who graduate from a Utah public school and begin a postsecondary education program; and

(iv) the number of students, as compared to all similarly situated students, who are performing at grade level in STEM classes.

(b) The State Board of Education and the State Board of Regents shall provide information to the board to assist the board in complying with the requirements of Subsection (4)(a) if allowed under federal law.

Section 5. Section **63M-1-3205** is amended to read:

63M-1-3205. Acquisition of STEM education related instructional technology program -- Research and development of education related instructional technology through a pilot program.

(1) For purposes of this section:

(a) "Pilot" means a pilot of the program.

(b) "Program" means the STEM education related instructional technology program created in Subsection (2).

(2) (a) There is created the STEM education related instructional technology program to provide public schools the STEM education related instructional technology described in Subsection (3).

(b) On behalf of the board, the staff of the board and the staff of the State Board of Education shall collaborate and may select one or more providers, through a request for proposals process, to provide STEM education related instructional technology to school districts and charter schools.

(c) On behalf of the board, the staff of the board and the staff of the State Board of Education shall consider and may accept an offer from a provider in response to the request for proposals described in Subsection (2)(b) even if the provider did not participate in a pilot described in Subsection (5).

(3) The STEM education related instructional technology shall:

(a) support mathematics instruction for students in [~~grade 6, 7, or 8; or~~]:

(i) kindergarten though grade 6; or

(ii) grades 7 and 8; or

(b) support mathematics instruction for secondary students to prepare the secondary students for college mathematics courses.

(4) In selecting a provider for STEM education related instructional technology to support mathematics instruction for the students [~~in grade 6, 7, or 8 as~~] described in Subsection (3)(a), the board shall consider the following criteria:

(a) the technology contains individualized instructional support for skills and understanding of the core standards in mathematics;

(b) the technology is self-adapting to respond to the needs and progress of the learner; and

(c) the technology provides opportunities for frequent, quick, and informal assessments and includes an embedded progress monitoring tool and mechanisms for regular feedback to students and teachers.

(5) Before issuing a request for proposals described in Subsection (2), on behalf of the board, the staff of the board and the staff of the State Board of Education shall collaborate and may:

(a) conduct a pilot of the program to test and select providers for the program;

(b) select at least two providers through a direct award or sole source procurement process for the purpose of conducting the pilot; and

(c) select schools to participate in the pilot.

(6) (a) A contract with a provider for STEM education related instructional technology may include professional development for full deployment of the STEM education related instructional technology.

(b) No more than 10% of the money appropriated for the program may be used to provide professional development related to STEM education related instructional technology in addition to the professional development described in Subsection (6)(a).

Section 6. Section **63M-1-3207** is amended to read:

63M-1-3207. Report to Legislature and the State Board of Education.

(1) The board shall report the progress of the STEM Action Center, including the information described in Subsection (2), to the following groups once each year:

(a) the Education Interim Committee;

(b) the Public Education Appropriations Subcommittee; and

(c) the State Board of Education.

(2) The report described in Subsection (1) shall include information that demonstrates the effectiveness of the program, including:

(a) the number of educators receiving high quality professional development;

(b) the number of students receiving services from the STEM Action Center;

(c) a list of the providers selected pursuant to this part;

(d) a report on the STEM Action Center's fulfilment of its duties described in Subsection 63M-1-3204; and

(e) student performance of students participating in a STEM Action Center program as collected in Subsection 63M-1-3204(4).

Section 7. Section **63M-1-3208** is enacted to read:

63M-1-3208. STEM education endorsements and incentive program.

(1) The State Board of Education shall collaborate with the STEM Action Center to:

(a) develop STEM education endorsements; and

(b) create and implement financial incentives for:

(i) an educator to earn an elementary or secondary STEM education endorsement described in Subsection (1)(a); and

(ii) a school district or a charter school to have STEM endorsed educators on staff.

(2) In accordance with Title 63G, Chapter 3, Utah Administrative Rulemaking Act, the State Board of Education shall make rules to establish how a STEM education endorsement incentive described in Subsection (1)(a) will be valued on a salary scale for educators.

Section 8. Section **63M-1-3209** is enacted to read:

63M-1-3209. Acquisition of STEM education high quality professional development.

(1) The STEM Action Center shall, through a request for proposals process, select technology providers for the purpose of providing a STEM education high quality professional development application.

(2) The high quality professional development application described in Subsection (1) shall:

(a) allow the State Board of Education, a school district, or a school to define the application's input and track results of the high quality professional development;

(b) allow educators to access automatic tools, resources, and strategies;

(c) allow educators to work in online learning communities, including giving and receiving feedback via uploaded video;

(d) track and report data on the usage of the components of the application's system and the relationship to improvement in classroom instruction;

(e) include video examples of highly effective STEM education teaching that:

(i) cover a cross section of grade levels and subjects;

(ii) under the direction of the State Board of Education, include videos of highly effective Utah STEM educators; and

(iii) contain tools to help educators implement what they have learned; and

(f) allow for additional STEM education video content to be added.

(3) In addition to the high quality professional development application described in Subsections (1) and (2), the STEM Action Center may create STEM education hybrid or blended high quality professional development that allows for face-to-face applied learning.

Section 9. Section **63M-1-3210** is enacted to read:

63M-1-3210. STEM education middle school applied science initiative.

(1) The STEM Action Center shall develop an applied science initiative for students in grades 7 and 8 that includes:

(a) a STEM applied science curriculum with instructional materials;

(b) STEM hybrid or blended high quality professional development that allows for face-to-face applied learning; and

(c) hands-on tools for STEM applied science learning.

(2) The STEM Action Center may, through a request for proposals process, select a consultant to assist in developing the initiative described in Subsection (1).

Section 10. Section **63M-1-3211** is enacted to read:

63M-1-3211. High school STEM education initiative.

(1) Subject to legislative appropriations, after consulting with State Board of Education staff, the STEM Action Center shall award grants to school districts and charter schools to fund STEM related certification for high school students.

(2) (a) A school district or charter school may apply for a grant from the STEM Action Center, through a competitive process, to fund the school district's or charter school's STEM related certification training program.

(b) A school district's or charter school's STEM related certification training program shall:

(i) prepare high school students to be job ready for available STEM related positions of employment; and

(ii) when a student completes the program, result in the student gaining a nationally industry-recognized employer STEM related certification.

(3) A school district or charter school may partner with one or more of the following to provide a STEM related certification program:

(a) a Utah College of Applied Technology college campus;

(b) Salt Lake Community College;

(c) Snow College; or

(d) a private sector employer.

Section 11. **Appropriation.**

Under the terms and conditions of Title 63J, Chapter 1, Budgetary Procedures Act, for the fiscal year beginning July 1, 2014, and ending June 30, 2015, the following sums of money are appropriated from resources not otherwise appropriated, or reduced from amounts previously appropriated, out of the funds or accounts indicated. These sums of money are in addition to any amounts previously appropriated for fiscal year 2015.

To Governor's Office of Economic Development - STEM Action Center

From General Fund $5,000,000

From General Fund, One-time $15,000,000

Schedule of Programs:

STEM Action Center $20,000,000

The Legislature intends that:

(1) up to $5,000,000 of the appropriation for the STEM Action Center program be used for STEM education related instructional technology and related professional development to support mathematics instruction as described in Subsection 63M-1-3205(3)(a)(i) and Section 63M-1-3206, and related assessment, data collection, analysis, and reporting;

(2) up to $1,500,000 of the appropriation for the STEM Action Center program be used for developing the STEM education endorsements and related incentive program described in Section 63M-1-3208;

(3) up to $5,000,000 of the appropriation for the STEM Action Center program be used for providing a STEM education high quality professional development application as described in Section 63M-1-3209;

(4) up to $3,500,000 of the appropriation for the STEM Action Center program be used to fund the STEM education middle school applied science initiative described in Section 63M-1-3210;

(5) up to $5,000,000 of the appropriation for the STEM Action Center program be used to fund the high school STEM education initiative described in Section 63M-1-3211;

(6) the appropriations described in Subsections (1), (2), (4), and (5):

(a) are one-time; and

(b) not lapse at the close of fiscal year 2015; and

(7) the appropriation described in Subsection (3):

(a) is ongoing; and

(b) not lapse at the close of fiscal year 2015.

Section 12. **Effective date.**

(1) Except as provided in Subsection (2), if approved by two-thirds of all the members elected to each house, this bill takes effect upon approval by the governor, or the day following

the constitutional time limit of Utah Constitution, Article VII, Section 8, without the governor's signature, or in the case of a veto, the date of veto override.

(2) Uncodified Section 11, Appropriation, takes effect on July 1, 2014.