



**IDAHO
STEM**
ACTION CENTER

STRATEGIC PLAN

FISCAL YEARS 2017 – 2020

JUNE 2016

Idaho STEM Action Center

2017 – 2020 Strategic Plan

Introduction, History and Future

Idaho is facing a crisis: Idaho citizens are not entering the STEM pipeline at a rate that will meet the current and future workforce needs of Idaho employers and sustain Idaho's economic development and future prosperity. According to a report by the Idaho Department of Labor, by 2025 Idaho will be lacking approximately 63,000 individuals needed to fill projected positions ranging from construction and service jobs to medical and technology positions, many of which involve STEM-related skills and knowledge. Numerous research studies including the Georgetown Center for Education and the Workforce, Idaho Business for Education and Idaho Department of Labor demonstrate that more than 60% of the projected jobs by 2020 will require a college degree or certificate beyond a high school diploma.

During the 2015 Idaho legislative session, a small group of visionary legislators, education leaders and industry stakeholders began a STEM Caucus that led to legislation creating the Idaho STEM Action Center. House Bill 302 became law on July 1, 2015 (Idaho Code §67-823). This new law permits some flexibility in implementation which will allow the Center to develop unique grant, training, professional development and student opportunities aligned to Idaho's workforce needs from kindergarten through career. Decisions related to the STEM Action Center are guided by a nine member Board appointed by the Governor. The Board is a unique blend of educational leaders from the State Board of Education and the State Department and seven Idaho industry leaders including the Idaho Department of Labor, the Idaho Department of Commerce, Idaho National Laboratory (INL) and Micron.

The Idaho STEM Action Center's enabling legislation focuses on five broad areas: a) student learning and achievement (including underrepresented populations); b) student access to STEM including equity issues; c) teacher professional development and opportunities; d) college and career STEM pathways; and e) industry and workforce needs.

During the 2016 legislative session, two pieces of legislation were passed that focused on a statewide computer science initiative. The STEM Education Fund was created through Senate Bill 1279 into which two million dollars was deposited from the state's general fund to support the computer science initiative (House Bill 379). The legislative intent of the computer science initiative is to increase statewide efforts in computer science awareness and access, kindergarten through career. These efforts will continue to be driven by the needs of Idaho's industry and developed in partnership with industry, the state board of education, professional-technical education, the state department of education,

administrators, educators and the community at large. The ultimate goal is to secure industry participation in the funding of the state's computer science education initiatives.

The Idaho STEM Action Center supports the recommendations of the Idaho Task Force for Improving Education and the State Board of Education's STEM Strategic Plan, which support the state's 60% goal and seeks to meet the workforce needs of Idaho business and industry.

As a result of these statewide efforts, Idaho will become a STEM business destination. Idaho will have a citizenry that not only recognizes the importance of STEM, but also possesses the necessary STEM skills for the workforce. A highly skilled STEM workforce will lead to increased investment and business opportunities throughout Idaho. Educators will have the necessary STEM skills to engage students. Students will possess the 21st century skills that employers require: critical thinking, problem-solving, collaboration and innovation. The result of this multi-tiered approach will be an increase in the number of businesses in Idaho and the number of STEM jobs available for Idahoans which will serve to bolster Idaho's economy and lead to long-term economic prosperity for the state and her citizens.

Mission Statement:

Connecting STEM education and industry to ensure Idaho's long-term economic prosperity.

Vision Statement:

Produce a STEM competitive workforce by implementing Idaho's Kindergarten through Career STEM education programs aligned with industry needs.

GOAL #1: Coordinate and facilitate implementation of STEM programs throughout Idaho

Objective 1A: Create/identify and fund STEM opportunities for Idaho students

Performance Measure 1: Number of students receiving services from the STEM Action Center

-Baseline 1: During FY16, 10,428 students received services from the STEM Action Center, primarily through grants disseminated to educators and/or adult mentors

-Benchmark 1: Increase the number of student served annually until at least 25,000 students are served throughout Idaho each year

How was this benchmark established? 25,000 students represent nearly 10% of the K12 populations which would be served annual by the Center. Given the current number of staff, this is the maximum number that the Center can serve effectively.

Objective 1B: Identify and facilitate delivery of high quality STEM educator professional development

Performance Measure 1: Number of educators receiving high quality STEM professional development

-Baseline 1: Four opportunities impacting 1,200 educators were offered in FY16

-Benchmark 1: Increase the number of opportunities by at least one each year until 10 opportunities are reached

-Benchmark 2: Continue to expand opportunities until at least 5,000 educators are reached annually

How were these benchmark established? Four opportunities were offered by the Center staff in FY16. With the addition of another staff member, contractors and an increased appropriation, ten opportunities (serving 5,000 educators) would be the maximum number to ensure that educators receive the highest quality STEM professional development as directed in Idaho Code §67-823

Objective 1C: Develop new and expand existing STEM Action Center grant programs for educators and the community at large

Performance Measure 1: Total number of grant opportunities offered

-Baseline 1: Two grant opportunities for educators and one for students were made available in FY16

-Benchmark 1: Increase the existing opportunities to at least five including computer science opportunities for educators and at least two opportunities for students

How was this benchmark established? Given the current level of Center staffing, seven grant opportunities are the maximum number that can be managed annually and effectively.

Performance Measure 2: Percentage of applicants receiving funding

-Baseline 1: 22% of educator requests were filled for the PK12 grant in FY 16.

-Benchmark 1: Fill at least 30% of the PK12 grant requests by FY20

How was this benchmark established? The number of grant requests will likely continue to increase and the need for additional support will be required to fill the requests. 30% will allow for a competitive process and will ensure that applications are thoughtful and through with measurable outcomes and evident need.

Objective 1D: Support the [Idaho State Board of Education STEM Strategic Plan](#)

GOAL #2: Align education and workforce needs throughout Idaho

Objective 2A: Engage industry to support STEM education outcomes

Performance Measure 1: Number and amount of industry contributions and personal donations to Center to promote and enhance opportunities for K-career

Baseline 1: \$62,000 in industry contributions and \$10,000 in personal donations to the Center in FY16 = \$72,000

Benchmark 1: Increase industry contribution each fiscal year until \$500,000 is reached annually

Benchmark 2: Hold additional fundraisers to double personal donations by FY20 by advertising the Idaho income tax credit option

How were these benchmark established? If the contributions to the Center double annually, this benchmark can be reached. As the Center becomes more established, industry will become more familiar with Center projects and programs. As a result, partnerships are anticipated to grow and donations will increase.

Objective 2B: Involve industry to collaborate with the STEM Action Center and focus outcomes and goals on workforce needs and opportunities

-Performance Measure 1: Number of opportunities for workforce certifications in high demand fields

Baseline 1: The STEM Action Center currently does not support these types of certifications; a baseline will be established in FY17

Benchmark 1: Benchmark(s) will be set after the FY17 baseline data is collected and analyzed

Performance Measure 2: Number of trainings in STEM and/or computer science and number of computer science and/or STEM endorsement received

-Baseline 1: No efforts were deployed in FY16

-Benchmark 1: Benchmark(s) will be set after the FY17 baseline data is collected and analyzed

Objective 2C: Create opportunities for schools to partner with local companies to provide for student and teacher mentoring and internships in computer science and/or STEM.

Performance Measure 1: Number of mentors and students involved in the Center's virtual, project-based mentorship platform

-Baseline 1: No virtual mentorship project-based platform currently exists. In FY17 an RFP will be released and a vendor will be selected to design a platform

-Benchmark 2: Baseline user data will be collected in FY18 and user benchmarks will be established for FY19

Performance Measure 2: Number of industries and students involved in the Computer Science Coop Project

-Baseline 1: No Coop program currently exists in Idaho

-Benchmark 1: Baseline data will be collected in FY17 with a scaling plan in place for FY18 – FY20

Objective 2D: Support computer science initiatives, programs, events, training and other promotions throughout the state for the benefit of school districts, students, parents and local communities

Performance Measure 1: Number of community events related to computer science

-Baseline 1: No support was provided in FY16

-Benchmark 1: Benchmarks will be set after FY17 once baseline data is collected and analyzed

Performance Measure 2: Number of educator professional development opportunities in computer science

-Baseline 1: In FY16, the Center supported one opportunity involving 44 educators with \$8,000 in continuing education credits and training through Code.org

-Benchmark 1: By FY20 increase to at least three opportunities and support at least 150 educators

How was this benchmark established? Given the increase in the FY17 appropriation and the addition of staffing to the Center, it will be possible to support at least three opportunities annually and collect effective outcome data.

Performance Measure 3: Number of student competitions in computer science

-Baseline 1: Computer science student competitions were not supported by the Center in FY16

-Benchmark 1: Support at least two computer science competitions per year by FY20

How was this benchmark established? With the additional Center staffing, computer science competitions can be researched for implementation in Idaho. Currently, computer science competitions are not common and students are not abundant so two competitions would allow student choice while ensuring sufficient numbers of competitors.

GOAL #3: Increase awareness of STEM throughout Idaho

Objective 3A: Collaborate with Idaho's state board of education, division of career-technical education, the state department of education, public higher education institutions and industry to develop a communication plan related to the computer science initiative and STEM

Performance Measure 1: Number of collaboratively created communication resources

-Baseline 1: No collaborative communication resources were created in FY16

-Benchmark 1: Benchmarks will be established after FY17 baseline data is collected

Objective 3B: Communicate about STEM and computer science initiatives, programs, events, training and other promotions throughout the state for the benefit of school districts, students, parents and local communities

Performance Measure 1: Number of users of the STEM Action Center online portal of resources and best practices

-Baseline 1: No online portal currently exists. Portal will be created in FY17 and deployed by FY18

-Benchmark 1: Benchmarks will be established after FY18 baseline data is collected

-Benchmark 2: Deploy online pilot database during FY18 which annually identifies at least five (5) best practice innovations used in Idaho schools that have resulted in growth in interest and performance in STEM and/or computer science by students and teachers

How was this benchmark established? This benchmark is required by Idaho Code §67-823.

Performance Measure 2: Number of industries involved in the STEM Matters Media Campaign

-Baseline 1: No media campaign currently exists

-Benchmark 1: Benchmarks will be established after FY17 baseline data is collected

Performance Measure 3: Number of monthly communication efforts using the monthly newsletter, website and social media such as Facebook

-Baseline 1: Four newsletters were sent in FY16, reaching 1,500 subscribers

-Benchmark 1: Increase the number of newsletter subscribers by at least 10 subscribers per month until 2,000 subscribers are reached

How was this benchmark established? All K12 principals and superintendents were automatically enrolled in the newsletter. Self-subscriptions occur at a slower rate of 10 on average per month.

Objective 3C: Increase access of students, educators and communities that represent traditionally underrepresented populations in STEM and computer science

Performance Measure 1: Number of grants and professional development opportunities which target traditionally underrepresented populations in STEM and/or computer science

-Baseline 1: Three grants and one professional development opportunity were provided to support traditionally underrepresented populations in STEM in FY16

-Benchmark 1: Support at least three grants and two professional development opportunities in both STEM and computer science by FY20 to support traditionally underrepresented populations including rural, socioeconomic status, race/ethnicity and gender.

How was this benchmark established? As dictated in Idaho Code §67-823, the Center must support grants and professional development for traditionally underrepresented populations. Given the current staffing and funding levels, supporting at least five opportunities would allow high quality customer service and ensure effective outcome measurements.

External Factors Affecting Goals

1) Infrastructure

- a. As a small agency of three full time individuals, infrastructure can significantly influence outcomes. Contractors will be hired to fulfill legislative intent for Center programs and projects which will lead to increase productivity for the Center. Additional staffing would help the Center meet its goals in a more timely fashion.
- b. The Center needs to continue to leverage existing resources to prevent duplication. This will require knowledge of activities occurring outside of the

Center and clear, timely communication between numerous entities which could be challenging.

2) Funding and Economic Conditions

- a. Funding will be needed in an ongoing capacity to fulfill the intent of both the STEM Action Center legislation and the Computer Science Initiative.
- b. Partnering with industry will require industry awareness and confidence in the Center as well as the financial confidence in the economy.
- c. Grant availability will also drive certain aspects of Center activity and may vary annually.

3) Statewide Awareness

- a. In order to ensure statewide equity, it will be critical that the Center raise awareness of the availability of grants, professional development opportunities and scholarships. Increased communication efforts will be necessary to facilitate this awareness.
- b. When soliciting requests for proposals, the Center must assume that it will receive numerous applications that are within the proposed budgets.
- c. Unrecognized demand for STEM Action Center resources could lead to an increased need to reviewers/volunteers to determine recipients of project and program opportunities.
- d. When offering professional development and grant opportunities, messaging to ensure statewide interest and diversity will be paramount to guarantee educators and communities from diverse backgrounds are represented.