

Project

G2S Project Code: *(system assigned)*

State: **West Dakota**

Fiscal Year: **2013**

Exemplary

Exemplary Narrative:

General Information

Title: **STEAM Afterschool Programs for Underserved Youth**

State Project Code: **2013-ABC-101**

Start Date: **January 1, 2014**

End Date: **July 30, 2014**

Abstract:

STEAM provided mentoring, technology training, and out-of-school science education for twenty at-risk youth, ages 13-17. Students constructed solar water heaters and parabolic solar collectors; recorded the making of their solar-powered devices and produced how-to videos; co-designed and constructed tiny homes for homeless adults as part of a larger school-wide volunteer effort; and participated in a creative writing and arts workshop that focused on remixing and reimagining science concepts. High school students that participated in this program demonstrated improvement in test scores as compared to non-participants; gains in knowledge about STEM careers; gains in 21st century skills, including communication, teamwork, and analytical thinking; and willingness to pursue a college degree in a STEM field.

State Goal: **Improving access to lifelong learning opportunities**

Project Director

Director Name: **Helen Heller**

Director Phone: **1159394587**

Director Email: **hheller@watertownpublic.org**

Grantee:

Project Outcomes

List any important findings or outcomes from your project:

18 of 20 youth completed the program’s pre- and post- surveys.

- 95% reported increased self-confidence and 70% had an increased motivation to do well in school.
- 92% reported they want to learn more about science and technology as a result of their participation in the program.
- 90% reported an increased understanding of the role of science and technology in everyday life.
- 85% reported an increased interest in science and technology generally and
- 70% had an increased interest in STEM careers.
- 65% reported that they enjoy math and science projects in school more than before their participation in the program.

Survey Item	Percent who answered YES	
	Before	After
I am good in math	45%	85%
I am smart (intelligent)	30%	100%
I like to discover things (or invent things)	55%	100%
I like to design things (or build things)	35%	100%
I know what a scientist does	45%	98%

Please briefly describe importance of findings.

Evaluations done by an external reviewer at the beginning and end of the 6-month program through surveys, focus groups, and interviews showed that students had increased interest in science and math and increased confidence in their ability to pursue these subjects. This program found ways to increase interest in STEM by providing youth with engaging curriculum that sparked their curiosity; promoted teamwork; incorporated design theory; and had a strong mentorship component that exposed youth to various career opportunities through interaction with STEM professionals.

What methods did you use to determine your findings? Check all that apply.

Survey Review of Administrative Data Interview/Focus Group

Participant Observation Other

Based on outputs, outcomes and/or other results, explain any significant lessons learned from these findings for either the SLAA or others in the LIS field.

This year, we deployed a team mentoring approach and asked mentors to meet with groups of 6-8 students at their school or on the local university’s campus. We

recruited students from the local university in the Natural Sciences departments to serve as mentors. We believe that this partnership between the Watertown Library, Watertown High School, and Watertown State University proved to be highly successful in creating diverse adult mentor teams consisting of librarians, teachers, and university students. Throughout the 8-month program, one adult was available per week to deliver programming. Also, university students were able to earn community service/internship credits that counted towards their general education requirements.

Update: 2 students were accepted at the state's flagship university with full scholarships. 12 of the 18 students in the program (2 students did not complete the entire program) applied to either community colleges or state universities.

Do you anticipate continuing this project after the current reporting period ends? Yes No

If Yes:

Do you anticipate any change in level of effort? Yes No

If Yes: Please briefly describe any changes in the level of effort. Include information about whether you intend to use LSTA or Match funds.

Do you anticipate any change in the project's scope? Yes No

If Yes: Please briefly describe this change in the project's scope.

Do you anticipate any other changes in the project? Yes No

If Yes: Please briefly describe this change in level of effort.

If No: Please describe why.

We don't anticipate continuing this project because the University will adopt facets of this project as part of a community outreach program.

Additional Materials

Attach File (file limit: 40MB)

Enter URL:

Budget Information

Salaries/Wages/Benefits

LSTA	MATCH-State	MATCH-Other	Total
65,000			65,000

Description: 1 full-time librarian (LSTA-funded); 12 mentors

Consultant Fees

LSTA	MATCH-State	MATCH-Other	Total
5,000			5,000

Description: Engineering and construction professionals; private funds were used to hire an independent evaluator.

Travel

LSTA	MATCH-State	MATCH-Other	Total
5,000			5,000

Description: Transport to and from educational sites.

Supplies/Materials

LSTA	MATCH-State	MATCH-Other	Total
35,000	300	10,000	45,300

Description: Tools and supplies to construct solar devices; tools, materials, and supplies to construct 4 moveable structures; supplies for exhibit materials.

Equipment

LSTA	MATCH-State	MATCH-Other	Total

Description:

Services

LSTA	MATCH-State	MATCH-Other	Total

Description:

Other Operational Expenses

LSTA	MATCH-State	MATCH-Other	Total

Description:

Totals: (system calculated)

LSTA	MATCH-State	MATCH-Other	Total
110,000	300.00	45,000	155,300

Intent: (select one)

- Improve the library workforce
- Improve the library's physical and technological infrastructure
- Improve library operations

- Improve users' ability to discover information.
- Improve users' ability to obtain information resources.

- Improve users' formal education
- Improve users' general knowledge and skills

- Improve users' ability to apply information that furthers their personal, family, or household finances
- Improve users' ability to apply information that furthers their personal or family health & wellness
- Improve users' ability to apply information that furthers their parenting and family skills

- Improve users' ability to use resources and apply information for employment support
- Improve users' ability to use and apply business resources

- Improve users' ability to participate in their community
- Improve users' ability to participate in community conversations around topics of concern.

Subject(s): (select up to two)

- Arts, Culture & Humanities
- Business & Finance
 - Employment
 - Personal Finance
 - Small Business
- Civic Affairs
 - Community Concerns
 - Government
- Education
 - After-school activities
 - Curriculum support
- Environment
- General (select only for electronic databases or other data sources)
- Health & Wellness
 - Parenting & Family skills
 - Personal/Family health & wellness
- History
- Languages

- Literacy
 - Adult Literacy
 - Digital Literacy
 - Early Literacy
 - Reading Program (Not Summer Reading)
 - Summer Reading
- Science, Technology, Engineering, & Math (STEM)
- Library Infrastructure & Capacity
 - Broadband Adoption
 - Buildings & Facilities
 - Certification
 - Collection Development & Management
 - Continuing Education and Staff Development
 - Disaster Preparedness
 - Library Skills
 - Programming & Event Planning
 - Research & Statistics
 - Outreach & Partnerships
 - Systems & Technologies
- Other:

Activities: [see *Activities Questions Template*]

Project Tags: STEM, teens