Investigating Influences in Idaho
STEM Education

Co-PIs
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STEM fields stand at the center of virtually all global conditions in the 21st century. At the same time, however, national- and state-level student interest and performance in STEM education is insufficient. Little research to date has investigated the complex factors that shape STEM attitudes, interest, and performance in Idaho.
To investigate the complexity of cultural dimensions that shape STEM educational outcomes with a focus on local contexts, as well as state-level patterns, in Idaho.

To collect data which can inform policy makers, educators, and other stakeholders when STEM education interventions and legislation are considered, developed and implemented.
The Twelve Communities

Bancroft (Caribou Co.)
Boise (Ada Co.)
Fairfield (Camas Co.)
Idaho Falls (Bonneville Co.)
Jerome (Jerome Co.)
Kamiah (Lewis Co.)
Lewiston (Nez Perce, Co.)
Melba (Canyon Co.)
Mud Lake/Terreton (Jefferson Co.)
Pocatello (Bannock Co.)
Post Falls (Kootenai Co.)
Priest River (Bonner Co.)
Five-year Project Design

- **Year 1**: Thirty-nine focus groups of teachers, parents, and community members conducted in 12 counties
- **Year 2**: Statewide phone survey with 12 counties oversampled
- **Year 3**: Surveys of: students in grades 4, 7 and 10; their parents; random sample of teachers statewide; UI retreat/workshop; pilot innovations
- **Year 4**: Further implementation of innovations, assessment of interventions, statewide STEM conference, dissemination of results, development of key partnerships
- **Year 5**: Continued progress with innovations, final surveys to assess progress
Year 1
- Highlights from Focus Groups

Year 2
- Important Statewide findings
High levels of support for investment in education

Statewide Survey Response

- 77.1% support state budget increases in K-12 education.
- 77.4% support state budget increases in STEM education.
- 66.6% support state budget increases in higher education.

- For comparison, 41.7% support state budget increases in law enforcement/public safety.

So much of legislation in politics, and even education decisions that are being made, go back to assuming that you understand what [the science is] they’re even talking about. So, while we can’t all be experts in everything, I think there’s a certain level of literacy in these areas that we all need to be good citizens to be able to make responsible decisions.

-- 2011 Focus Group Response
Parents appear uncomfortable with their abilities

Statewide Survey Response
• 41.1% of parents were unsure about what courses a child should take to be successful in college
• 37.7% of parents were unsure about how to help someone apply to college
• 41.3% of parents were unsure how financial aid works in college

Statewide Survey Response
• 42.5% of parents in the statewide survey felt their math and science abilities make it difficult to help their children with their homework.
• 48.3% of parents in the statewide survey felt they do not have as much time as they would like to be involved in their children’s education.
Science is supported, but support is tempered by uncertainty.

58.5% of respondents felt that scientists have a political agenda with their research:

“It's alright if they give the facts, but leave it to that. [They] don't need to get on a high horse and press their agenda on others.”

Statewide Survey Response

- 45.5% said that science can be in conflict with their religious beliefs
- 49.1% reported that scientific knowledge changes so rapidly that it is hard to know what to trust
- 60.2% think scientists have had a positive influence in their communities
Year 3

- Student Survey
- Parent Survey
- Teacher Survey
Only 28% of Idaho eighth graders are proficient in math and 36% are proficient in science (NCES 2011). In addition, Idaho has a significantly lower percentage (29.5%) of 18-24 year olds in college compared to 36.5% enrolled in the nation as a whole (NCHEMS 2009).
Randomly selected 10th, 7th, and 4th grade classes in 12 communities/districts

Total of 2,600 student surveys collected

- 426 4th graders
- 995 7th graders
- 1179 10th graders
### Student Sample Demographics

<table>
<thead>
<tr>
<th>Demographic Groups</th>
<th>4&lt;sup&gt;th&lt;/sup&gt; Graders (n=426)</th>
<th>7&lt;sup&gt;th&lt;/sup&gt; Graders (n=995)</th>
<th>10&lt;sup&gt;th&lt;/sup&gt; Graders (n=1179)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Girl</td>
<td>49% (207)</td>
<td>49% (455)</td>
<td>52% (600)</td>
</tr>
<tr>
<td>Boy</td>
<td>51% (217)</td>
<td>51% (483)</td>
<td>48% (554)</td>
</tr>
<tr>
<td>Ethnicity*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>--</td>
<td>71% (662)</td>
<td>80% (932)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>--</td>
<td>17% (161)</td>
<td>17% (195)</td>
</tr>
<tr>
<td>American Indian or Alaskan Native</td>
<td>--</td>
<td>7% (66)</td>
<td>4% (47)</td>
</tr>
<tr>
<td>Black or African American, Asian American, or Other</td>
<td>--</td>
<td>15% (138)</td>
<td>9% (90)</td>
</tr>
<tr>
<td>Geographic Residence</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>32% (135)</td>
<td>14% (143)</td>
<td>12% (141)</td>
</tr>
<tr>
<td>Urban</td>
<td>68% (291)</td>
<td>86% (852)</td>
<td>88% (1038)</td>
</tr>
<tr>
<td>Parents’ Educational Level</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>One or more parents with college degree</td>
<td>--</td>
<td>50% (454)</td>
<td>52% (601)</td>
</tr>
<tr>
<td>Neither parent has a college degree</td>
<td>--</td>
<td>19% (170)</td>
<td>35% (400)</td>
</tr>
<tr>
<td>Don’t know</td>
<td>--</td>
<td>31% (279)</td>
<td>13% (146)</td>
</tr>
</tbody>
</table>

*Students could identify with more than one ethnicity, thus percentages do not total 100. Fourth graders were not asked this question.**

**Note:** Frequencies are listed in parentheses.

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The proportion of boys and girls in our sample is similar to the state population. According to National Center for Educational Statistics, boys comprised 51.5% and girls 48.5% of Idaho’s K-12 school population (2010-11).

The ethnic distribution of the sample is similar to the state population. National Center for Educational Statistics reports white students comprise 78.5% of Idaho’s K-12 school population. Hispanic students represent 15.9% while other minority populations (including American Indians, African-Americans, and Asian-Americans) are 5.6% of the student population (2010-11).

Students in our survey reported having more highly educated parents than is typical among adults in Idaho (34% of Idahoans 25 years or older had an associate’s degree or higher in 2011).

A large number of students in our sample did not know if their parents had college degrees.
How do 4th grade students perceive STEM careers?

* The majority of 4th graders like math (84%) and science (92%) yet...
  * over half (54%) do not want to have a job that uses a lot of math when an adult
  * over half (60%) would not like to be a scientist
Students’ Interest In Science And Math Declines As They Progress Through School

Students who answered "I like math"

4th Grade: 84%
7th Grade: 75%
10th Grade: 61%

Students who answered "I like science"

4th Grade: 92%
7th Grade: 86%
10th Grade: 67%
I like math

Most of my friends like math

Math is harder for me than for most of my peers

I would like a job that uses a lot of math

Most students enjoy math. However, more than half of the students across all grades did not want a job that used a lot of math. This becomes more pronounced as they age.

Numbers in the figure reflect the percent of students who agreed or strongly agreed with each listed statement.
Fourth, seventh, and tenth graders liked science at higher rates than for math, both in reference to themselves and to their peers. However, students from all three grades indicated lower interest in being a scientist than having a job that used a lot of math.
Idaho High school students are unsure how to prepare for college and by high school their interest in STEM has declined significantly.
Nearly half of Hispanic tenth graders wanted jobs that didn’t require math or science beyond high school. Hispanic students were more likely than white students to say they want a job that meets their parents’ wishes and is really physical. Boys said they like math more often than girls did, but boys were less interested in jobs requiring math beyond high school level. Over a fifth of boys would like a job that doesn’t require a college degree. Tenth grade boys were more likely than girls to indicate they would like a job that meets their parents’ wishes and allows them to stay in their hometowns.
When asked about careers, students didn’t want jobs that require a lot of science and math, but then listed STEM jobs as ideal???
Research surrounding parental involvement in their child’s education consistently finds that higher academic achievement is linked to parents’ expectations and presence in student learning (Jeynes, 2005).
### Demographic Groups

<table>
<thead>
<tr>
<th>Demographic Groups</th>
<th>4&lt;sup&gt;th&lt;/sup&gt; Grade Parents (n=258)</th>
<th>7&lt;sup&gt;th&lt;/sup&gt; Grade Parents (n=634)</th>
<th>10&lt;sup&gt;th&lt;/sup&gt; Grade Parents (n=701)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>80%</td>
<td>82%</td>
<td>76%</td>
</tr>
<tr>
<td>Men</td>
<td>20%</td>
<td>18%</td>
<td>24%</td>
</tr>
<tr>
<td>Ethnicity*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>85%</td>
<td>81%</td>
<td>83%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>10%</td>
<td>13%</td>
<td>10%</td>
</tr>
<tr>
<td>American Indian or Alaskan Native</td>
<td>3%</td>
<td>3%</td>
<td>2%</td>
</tr>
<tr>
<td>Black or African American, Asian American, or Other</td>
<td>2%</td>
<td>2%</td>
<td>3%</td>
</tr>
<tr>
<td>Geographic Residence</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>30%</td>
<td>15%</td>
<td>14%</td>
</tr>
<tr>
<td>Urban</td>
<td>70%</td>
<td>85%</td>
<td>86%</td>
</tr>
</tbody>
</table>

*Respondents could identify with more than one ethnicity, thus percentages do not total 100.

Of the 4<sup>th</sup>-grade students who participated in the survey fall 2012, 61% of their parents participated. Of 7<sup>th</sup>-grade students, 64% of their parents participated and 60% of 10<sup>th</sup>-grade students’ parents participated.

The ethnic distribution of the parent sample is not as diverse as the student sample. Although 17% of the student sample reported being Hispanic, only 10% of the parents identified as Hispanic.
Parent Experiences with Math and Science Compared to Student Responses

Consider your experiences with math in school.

Parents: I wish I would have put more effort into learning math when I was in school.
- Disagree/Strongly Disagree: 31%
- Strongly Agree/Agree: 69%

Students: Most of my friends like math.
- Disagree/Strongly Disagree: 55%
- Strongly Agree/Agree: 45%

Parents: Most of my friends liked math.
- Disagree/Strongly Disagree: 39%
- Strongly Agree/Agree: 61%

Students: I like math.
- Disagree/Strongly Disagree: 25%
- Strongly Agree/Agree: 75%

Parents: I liked math.
- Disagree/Strongly Disagree: 38%
- Strongly Agree/Agree: 62%

Consider your experiences with science in school.

Parents: I wish I would have put more effort into learning science when I was in school.
- Disagree/Strongly Disagree: 30%
- Strongly Agree/Agree: 70%

Students: Most of my friends like science.
- Disagree/Strongly Disagree: 41%
- Strongly Agree/Agree: 59%

Parents: Most of my friends liked science.
- Disagree/Strongly Disagree: 41%
- Strongly Agree/Agree: 59%

Students: I like science.
- Disagree/Strongly Disagree: 18%
- Strongly Agree/Agree: 82%

Parents: I liked science.
- Disagree/Strongly Disagree: 18%
- Strongly Agree/Agree: 82%
Parents said they wished they had put more effort into learning math and science when they were in school.

There was a small but significant correlation between how much children reported liking math and how much their parents reported liking math ($r = .11$, $p < .001$).

Perceptions of peers may be more influential than parents with regard to liking math as children who believed their friends liked math were more likely to report that they too liked math ($r = .29$, $p < .001$).

Students showed the same pattern as their parents with regard to their own and perceptions of their friends’ liking for science.
How Do Parents Feel About Their Student’s Education?

As grade levels advance parents increasingly perceive that teachers are less successful in getting students excited about math or science.

Degree of Parent Agreement with Each Item

My child’s teachers are mostly succeeding at showing how MATH is relevant and important in the real world.

- 4th grade parents: 3.10a, 2.94b
- 7th grade parents: 3.03a, 3.04a
- 10th grade parents: 3.02a, 2.74b

My child’s teachers are mostly succeeding at showing how SCIENCE is relevant and important in the real world.

- 4th grade parents: 2.84b, 3.01c
- 7th grade parents: 2.98a, 2.82b
- 10th grade parents: 3.09a, 3.02a

My child’s teachers are mostly succeeding in getting him or her excited about learning MATH.

- 4th grade parents: 3.04a, 2.82b
- 7th grade parents: 2.98a, 2.61c
- 10th grade parents: 3.02a, 2.74b

My child’s teachers are mostly succeeding in getting him or her excited about learning SCIENCE.

- 4th grade parents: 2.94b, 3.01c
- 7th grade parents: 2.84b, 2.61c
- 10th grade parents: 3.09a, 3.02a

Strongly Disagree 2.00 1.00 3.00 4.00

Strongly Agree
The number of households living on incomes below Idaho’s median income and below poverty was greater for the sample of 4th-grade parents than for the other two parent samples.

### Distribution of parents in sample earning above and below Idaho’s median income of $46,890.

<table>
<thead>
<tr>
<th></th>
<th>10th-grade Parents</th>
<th>7th-grade Parents</th>
<th>4th-grade Parents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Above Median</td>
<td>58%</td>
<td>54%</td>
<td>44%</td>
</tr>
<tr>
<td>Below Median</td>
<td>42%</td>
<td>46%</td>
<td>56%</td>
</tr>
</tbody>
</table>

### Poverty distribution of parents in sample.

<table>
<thead>
<tr>
<th></th>
<th>10th-grade Parents</th>
<th>7th-grade Parents</th>
<th>4th-grade Parents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Above Poverty</td>
<td>75%</td>
<td>71%</td>
<td>60%</td>
</tr>
<tr>
<td>Below Poverty</td>
<td>25%</td>
<td>29%</td>
<td>40%</td>
</tr>
</tbody>
</table>

- The largest percentage of families in poverty are Hispanic in this sample.
- Parents with college degrees comprised the smallest percentage of families living below poverty level.
The Relationship Between Poverty and Family Involvement with Education

- 60% of parents felt they knew how to support their child’s efforts in college preparation.
- Parents experiencing poverty were less likely to report understanding different aspects of college preparation.
- 40% of parents living below poverty level reported they did not know how to help their child apply for financial aid.
Relationship Between Parents’ Educational Attainment and Racial-Ethnic Composition

Male Parents’ Educational Attainment by Racial-Ethnic Group

- % Less than High School: 2% (Male white parents), 7% (Male Hispanic parents), 15% (Male parents with other racial-ethnic background), 0% (Female white parents), 8% (Female Hispanic parents), 14% (Female parents with other racial-ethnic background)
- % High School Diplomas: 20% (Male white parents), 25% (Male Hispanic parents), 28% (Male parents with other racial-ethnic background), 20% (Female white parents), 26% (Female Hispanic parents), 28% (Female parents with other racial-ethnic background)
- % 2-year Degrees: 7% (Male white parents), 15% (Male Hispanic parents), 12% (Male parents with other racial-ethnic background), 7% (Female white parents), 4% (Female Hispanic parents), 6% (Female parents with other racial-ethnic background)
- % 4-year Degrees: 20% (Male white parents), 20% (Male Hispanic parents), 20% (Male parents with other racial-ethnic background), 20% (Female white parents), 10% (Female Hispanic parents), 12% (Female parents with other racial-ethnic background)
- % Graduate/Professional Degrees: 2% (Male white parents), 2% (Male Hispanic parents), 2% (Male parents with other racial-ethnic background), 1% (Female white parents), 1% (Female Hispanic parents), 1% (Female parents with other racial-ethnic background)

Female Parents’ Educational Attainment by Racial-Ethnic Group

- % Less than High School: 4% (Female white parents), 8% (Female Hispanic parents), 6% (Female parents with other racial-ethnic background)
- % High School Diplomas: 36% (Female white parents), 41% (Female Hispanic parents), 26% (Female parents with other racial-ethnic background)
- % 2-year Degrees: 14% (Female white parents), 12% (Female Hispanic parents), 25% (Female parents with other racial-ethnic background)
- % 4-year Degrees: 26% (Female white parents), 27% (Female Hispanic parents), 27% (Female parents with other racial-ethnic background)
- % Graduate/Professional Degrees: 10% (Female white parents), 12% (Female Hispanic parents), 12% (Female parents with other racial-ethnic background)

• For both male and female parents, the level of educational attainment among Hispanic parents was significantly lower than the other two racial-ethnic groups considered in this report.
Parents with less than a high school education wish they had more time to be involved in their child’s education compared to other parents.

The largest portion of students who indicate they do not want to be scientists come from homes where the parent has less than a high school diploma.

Parents’ educational attainment significantly correlates with students’ career aspirations, with the desire to use a lot of math increasing as parents’ education level increases \((r=.07, p=.01)\).

Regression analysis indicates that a female parent’s educational attainment and grade in school are significant predictors of a child’s agreement with the statement, “I want to be a Scientist.”

Over 50% of parents, both male and female, reported having a high school education or less, YET 91% of parents said they would like their child to earn at least a four-year degree.
“Tell me and I forget, teach me and I may remember, involve me and I learn.”

— Benjamin Franklin
## Teacher Sample Demographics

<table>
<thead>
<tr>
<th>Demographic Groups</th>
<th>Teacher Sample</th>
<th>Idaho Population (Census Bureau)</th>
<th>US Population (Census Bureau)</th>
<th>US Teachers (Natl Ctr for Ed Stats)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>56%</td>
<td>50%</td>
<td>51%</td>
<td>476%</td>
</tr>
<tr>
<td>Men</td>
<td>44%</td>
<td>50%</td>
<td>49%</td>
<td>24%</td>
</tr>
<tr>
<td><strong>Ethnicity</strong>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>96%</td>
<td>94%</td>
<td>78%</td>
<td>383%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>2%</td>
<td>12%</td>
<td>17%</td>
<td>7%</td>
</tr>
<tr>
<td>American Indian or Alaskan Native</td>
<td>1%</td>
<td>2%</td>
<td>1%</td>
<td>Less than 1%</td>
</tr>
<tr>
<td>Black or African American, Asian American, or Other</td>
<td>2%</td>
<td>1%</td>
<td>18%</td>
<td>8%</td>
</tr>
</tbody>
</table>

*Respondents could identify with more than one ethnicity.

Sources: US Census Bureau and Idaho Department of Education

The sample of Idaho teachers is dominated by females at 56%, yet not as drastically as the national 76%; however, the Idaho State Department of Education reported that 71% of public k-12 teachers were female in 2012-13.

Both the sample and the State reported 2% of Idaho teachers are Hispanic, while the general population of Idaho has 12% Hispanic.
All grade levels from kindergarten through twelfth grade are represented in the sample.

<table>
<thead>
<tr>
<th>Grade Level</th>
<th>K</th>
<th>1st</th>
<th>2nd</th>
<th>3rd</th>
<th>4th</th>
<th>5th</th>
<th>6th</th>
<th>7th</th>
<th>8th</th>
<th>9th</th>
<th>10th</th>
<th>11th</th>
<th>12th</th>
</tr>
</thead>
<tbody>
<tr>
<td># Teachers</td>
<td>24</td>
<td>46</td>
<td>46</td>
<td>35</td>
<td>27</td>
<td>24</td>
<td>25</td>
<td>38</td>
<td>43</td>
<td>28</td>
<td>32</td>
<td>30</td>
<td>31</td>
</tr>
</tbody>
</table>

Teachers represented a wide variety of subject areas.

<table>
<thead>
<tr>
<th>Subject in Jr. High/High School</th>
<th>Social Sciences</th>
<th>Math</th>
<th>English</th>
<th>Science</th>
<th>Vocational /Technical</th>
<th>Health /PE</th>
<th>Arts</th>
<th>Foreign Language /ELL</th>
<th>Speech</th>
<th>Special Ed</th>
<th>Electives</th>
</tr>
</thead>
<tbody>
<tr>
<td># Teachers in Sample</td>
<td>47</td>
<td>39</td>
<td>37</td>
<td>36</td>
<td>13</td>
<td>11</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>3</td>
<td>9</td>
</tr>
</tbody>
</table>
Teachers had between 2 and 46 years of teaching experience including the 2012-2013 school year.

The average number of years taught for the entire sample was 20 years. The median was also 20 years.
Elementary teachers, who must teach several subjects, tend to take fewer math and science courses in college.
Please indicate how satisfied or dissatisfied you are currently with each of the following at your school:

1. The amount of time your district provides for professional development
   - 59% satisfied or very satisfied

2. The quality of professional development opportunities
   - 57% satisfied or very satisfied

3. Science, technology, engineering, and math related professional development opportunities
   - 75% satisfied or very satisfied

Yet, in another question, only 42% agreed/strongly agreed with There has been sufficient professional development devoted to supporting the transition to the CCSS at my school.
What Do These Teachers Have to Say About:

- Parental Involvement?
- Community Engagement?
- Student Achievement?
- School Culture?
- Student Motivation?
- Student College Preparation?
A majority of teachers in the sample were satisfied with the support for education in their communities; yet only 44% indicated they are satisfied with parents’ involvement and even fewer feel students have adequate resources.

Please indicate how satisfied or dissatisfied you are currently with each of the following at your school:

- The level of parents’ involvement in their child’s education: 44%
- The general support for education in your community: 69%
- The available resources for students to get adequate academic help outside of class time: 37%

“I would like to have more interaction in my classroom with science, engineering, math or technology professionals.”

The majority of teachers want more interactions with STEM Professionals.
There is not much I can do as a teacher to overcome the influence of adverse family conditions on students’ learning.

**Student achievement in math is mostly a reflection of their natural abilities.**

*Many of my students are not motivated to work in school because they feel education has no place in the futures they see for themselves.*

Sub-groups: 34% of elementary teachers agreed with this statement, while 57% of secondary teachers agreed.

Teachers Believe they have an impact.
Teachers perceive a positive peer culture but feel there could be more emphasis on Science and Math and how it relates to employment.

*Most of my students have a clear idea of how math and science can be used in their future employment and daily lives as adults.

**My school emphasizes math and/or science at the expense of other subject areas.

The student peer culture at my school encourages boys more so than girls to succeed at math and/or science.

The student peer culture at my school encourages white students more so than ethnic minority students to succeed at math and/or science.
Teachers indicate themselves and parents as having more significant influence than peers and community members for students’ academic motivation. A very similar distribution occurred for a parallel question about influences on a student’s decision to attend college or not.
Teachers attribute lack of preparation primarily to lack of motivation.

“How significant are each of the following factors in explaining why students in your school may leave high school unprepared or unable to succeed in a 2- or 4-year college?”

- Lack of student motivation
- Poor reading and communication skills
- Lack of critical thinking and problem-solving abilities
- Lack of encouragement from family
- Lack of participation in college preparatory coursework
- Lack of encouragement from friends

Percent of Secondary Teachers Responding

Very Significant  |  Significant  |  Somewhat Significant  |  Not Significant
Conclusions

* The statewide survey suggests that Idaho citizens support education and specifically STEM education
* Most students were not interested in jobs that use a lot of math and did not want to be scientists. Yet, they are interested in STEM-related careers. Career awareness may be the key to resolving this disconnect. (Poster presents more detail)
* Students’ positive experiences with, and attitudes toward, math and science significantly decline as they progress in grade level. High School may be too late for interventions.
* Gender and Ethnicity are related to student attitudes. (Posters present more detail)
* Parents and students alike have doubts regarding the necessary steps to proceed to college and parents are concerned about their abilities to help their children with math and science and this is pronounced with lower income and lower educational attainment. (Posters present more detail)
* Many teachers have only the minimum requirements in math and science education and do not feel prepared to implement the Common Core Standards in math. Teacher Preparation in math may be key
“Introducing STEM Experiences to Head Start Children in Jerome County”
- Develop and deliver hands-on bilingual STEM activities
- Target children 3-5 years old and their parents and teachers
- Jerome County

“How I do STEM” Community Awareness Campaign
- YouTube video competition highlighting STEM careers
- Produced by H.S. students for broad community awareness
- Lewiston area

“Technology to Teach Mathematical Practices to Parents”
- Develop and deliver video tutorials for parents to help them support children with math homework
- Target parents of students in grades K-6
- Kootenai County
Innovation Projects

- “Dig’ n IT” Digital Innovation Generating New Information Technology
  - Summer internship experience focused on technology
  - Target high school girls
  - Post Falls, Idaho
- “Virtual World Village”
  - Development of the web-based Virtual World Village 3D learning environment
  - Targeting High School Student use
  - Statewide
- “iSTEM from Excellence”
  - Informal STEM education using the place-based theme of Watersheds
  - Elementary Schools
  - Lakeland School District
- “Eastern Idaho Awareness”
  - A public awareness and assistance campaign about FAFSA and college applications
  - High School students and parents
  - Caribou County, Bannock County, Bonneville County