


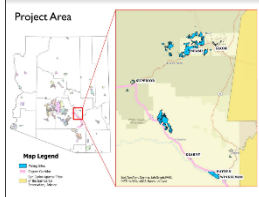




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|--|---|
| <b>Project Name:</b> STEAM in Action: Co-created environmental health science for Learning, Justice and Action   |   |
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| <b>Website:</b><br><a href="https://steamaction.arizona.edu">https://steamaction.arizona.edu</a>   | <b>If SEPA project, URL for project on <a href="https://nihsepa.org/">https://nihsepa.org/</a></b><br><a href="https://ramirez-andreotta.arizona.edu/projects/building-culture-health-green">https://ramirez-andreotta.arizona.edu/projects/building-culture-health-green</a> |

**Brief Program Description (50 – 60 words):** The Integrated Environmental Science and Human Risk Laboratory at the University of Arizona is working alongside communities that neighbor resource extraction activities to create an educational model that addresses community-identified environmental justice and public health issues. Through the collaborative engagement of scientists and local community members, this project includes informal science learning activities, community and youth advisory boards, co-created community science, and youth/adult trainings.

| Program and Participant Characteristics   | Program Activities  |
|---|---|
| <p><b>Program type</b> (Please check all that apply):</p> <p><input checked="" type="checkbox"/> Curriculum    <input checked="" type="checkbox"/> Out-of-school program</p> <p><input type="checkbox"/> Exhibit    <input checked="" type="checkbox"/> Interactive multimedia</p> <p><input checked="" type="checkbox"/> Teacher PD</p> <p><input checked="" type="checkbox"/> Research experiences for students or teachers</p> <p><input type="checkbox"/> Other (describe):</p> | <div style="text-align: center;">  <p>Community Advisory Board</p> <p>Represent YOUR community and have YOUR voice heard!</p> </div> <div style="display: flex; justify-content: space-around;">   </div> <div style="display: flex; justify-content: space-around;">   </div> <div style="text-align: center;">  </div> |
| <p><b>Setting(s):</b> <input type="checkbox"/> Formal <input checked="" type="checkbox"/> Informal</p>  |   |
| <p><b>Types of participants</b></p> <p><input checked="" type="checkbox"/> Students    <input checked="" type="checkbox"/> Teachers    <input type="checkbox"/> Scientists</p> <p><input checked="" type="checkbox"/> Families    <input checked="" type="checkbox"/> Public</p> <p><input type="checkbox"/> Other (describe):</p>  |   |
| <p><b>Grade level(s) of participants</b></p> <p><input type="checkbox"/> PreK    <input type="checkbox"/> Elementary (K-5)    <input checked="" type="checkbox"/> Middle (6-8)</p> <p><input checked="" type="checkbox"/> High (9-12)    <input checked="" type="checkbox"/> Adult</p>  |   |
| <p><b>Characteristics of the populations you serve relative to DEIA:</b> Rural, EJ, living near legacy/active resource extraction, tribal community</p>   |   |

- Hold monthly STEAM community events with community partners
- Strong presence at community events for promotion and recruitment
- Youth and Community Advisory Board meeting quarterly
  - Pre-survey data collected
- Two adult trainings completed
  - Micro credential for participants (n=12)
  - Pre/post-survey data and artifacts collected from each site
- Youth trainings will kick off in June
  - Pre/post survey data and artifacts will be collected
  - Youth environmental monitoring
  - Focus groups will be conducted
- Planning and preparation for participants to conduct trainings in future years

| Evaluation   | Key Accomplishments and/or Findings  |
|--|--|
| <p><b>Constructs measured</b></p> <p><input checked="" type="checkbox"/> Content knowledge      <input checked="" type="checkbox"/> Skills</p> <p><input checked="" type="checkbox"/> Nature of science      <input checked="" type="checkbox"/> Career awareness</p> <p><input checked="" type="checkbox"/> Attitudes (e.g., interest, identity, belonging)</p> <p><input checked="" type="checkbox"/> Quality or fidelity of implementation</p> <p><input type="checkbox"/> Other (describe):</p>  | <ul style="list-style-type: none"> <li>• Implemented four Memorandum of Understanding (MOU) documents between the University of Arizona and participating community-based organizations and school districts</li> <li>• Conducted community listening sessions and a teacher survey as formative evaluation, and incorporated feedback into programmatic planning and training elements</li> <li>• Established a monthly community STEAM event in a participating community <ul style="list-style-type: none"> <li>○ Undergraduate and graduate students participate in activity development and implementation</li> </ul> </li> </ul> |
| <p><b>Methods</b></p> <p><input checked="" type="checkbox"/> Tests/surveys      <input checked="" type="checkbox"/> Interviews/focus groups</p> <p><input checked="" type="checkbox"/> Observations      <input checked="" type="checkbox"/> Artifacts (e.g., student work)</p> <p><input type="checkbox"/> Other (describe):</p>  | <ul style="list-style-type: none"> <li>• Built a program website in English and Spanish <ul style="list-style-type: none"> <li>○ Tracking tool for participation and collection of forms</li> <li>○ Data management of participant attendance</li> <li>○ Artifact posting (e.g., PhotoVoice)</li> <li>○ Environmental monitoring data report back</li> </ul> </li> </ul>   |
| <p><b>Design characteristics</b></p> <p><input type="checkbox"/> Comparison or control group</p> <p><input checked="" type="checkbox"/> Pre/post surveys or assessments</p> <p><input checked="" type="checkbox"/> Longitudinal tracking of participants</p> <p><input type="checkbox"/> Other (describe):</p>   | <ul style="list-style-type: none"> <li>• Set up a Youth and Community Advisory Board <ul style="list-style-type: none"> <li>○ Currently building the governance model and establishing leadership dynamics</li> <li>○ Developing a mission statement and code of conduct</li> <li>○ Directly informing training and environmental health monitoring efforts</li> </ul> </li> </ul>   |
| <b>Project Lessons Learned</b>   |  |
| <ul style="list-style-type: none"> <li>• Despite sustained work in these communities, there are challenges related to working in rural areas <ul style="list-style-type: none"> <li>○ Recruitment</li> <li>○ Travel for the team</li> <li>○ Hiring personnel</li> <li>○ Tech literacy and internet access</li> <li>○ Extended time needed to establish MOUs</li> </ul> </li> <li>• It is necessary to have protocols in place to support the mental health of the team and handling microaggressions</li> <li>• Management of tension with mining companies/money in communities and schools</li> <li>• A careful approach is needed for teaching about social justice issues to adults in particular because of deeply engrained stereotypes</li> </ul> |  |