Goal: Use entrepreneurship to increase access to and interest in mathematics for underrepresented populations
Project type: Developing and Testing Innovations
Project start/end date: 2018 - 2022
Project URL: https://sites.ced.ncsu.edu/design-and-pitch/

<table>
<thead>
<tr>
<th>Strategies:</th>
<th>Insights &amp; Achievements</th>
<th>Reconsiderando</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Innovative Design Challenges:</strong> Increase interest and access to STEM for girls and minority students</td>
<td><strong>Pitch Competitions:</strong> Classrooms across the country using D&amp;P and entrepreneurship to support learning and engagement</td>
<td><strong>What have you needed to reconsider?</strong> How to best incorporate tech tools</td>
</tr>
<tr>
<td><strong>Entrepreneurship:</strong> Allow students to experience the myriad uses of mathematics</td>
<td><strong>Professional Development:</strong> 2 PD experiences serving 10 in-service teachers internationally</td>
<td><strong>What have you been able to creatively overcome and how?</strong> COVID-19: Student Virtual Pitch Competitions</td>
</tr>
<tr>
<td><strong>JASON Learning:</strong> Leverage partnerships to broaden our reach and further our goals</td>
<td><strong>Conferences:</strong> 9 national and local conference presentations</td>
<td><strong>What are you still grappling with?</strong> How to get the Challenges in the hands of teachers and students</td>
</tr>
</tbody>
</table>
### Innovation Challenges for Middle School Mathematics in a Digital Learning System: Student Participation Impact on Achievement, Affect, and STEM Career Interest

#### Challenge Image | Challenge Title | Challenge Champion | Mathematical Topics
--- | --- | --- | ---
[Image] | Operation Lifesave | Kris Ludvig Scientist at the United States Geological Survey | 3-D Figures; Proportional Reasoning
[Image] | Power Me Up | Kristin Vicari Senior Chemical Engineer at Tesla | Analyzing Data; Proportional Reasoning
[Image] | Keep It Real | Carolyn Fairlie Executive Director of Mile High Kids | Collecting, Analyzing, and Representing Data
[Image] | Building Algorithms | Cathy Yee CEO & Founder of Inductive | Equations and Inequalities; Percentages
[Image] | Prototype to Profit | Tyler Maloney Materials Science Engineer & Entrepreneur | Representing and Solving Linear Functions
[Image] | Erase Food Waste | Oscar Elgavisto Founder & CEO of Chowberry | Percentages; Data Collection and Analysis
[Image] | Fix It: Design for Community Impact | Gitansh Rau Inventor & STEM Promoter | Proportions; Transformations; 3-D Figures
[Image] | Flashy Fashion | Kelly Durninich Designer & CEO of DDomenico Design | Coordinate Plane; Transformations; Domain and Range
[Image] | Pollution Solution | Clifford Olson Owner & CEO of Chemolox | 3-D Figures; Data Collection and Analysis

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**Research, Design, Test, and Refine the Solution**

**Develop the Key Business Proposition**

**Complete the Technical Brief**

**Prepare and Practice the Pitch**

**Deliver the Pitch**

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**Understand the Challenge**

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**Characteristics of Entrepreneurship**

- Adaptability
- Courage
- Creativity
- Persistence
- Resourcefulness
- Persistence
- Problem Solving
- Pitching
- Opportunity Awareness

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**Processes**

- Brainstorming
- Marketing:
  - Customer Understanding
  - Customersegment
- Building
- Testing
- Launching