Developing STEM Identity in Rural Audiences through Community-Based Engineering Design

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Project type: Developing and Testing Innovations (DTI)

Project URL: http://go.ncsu.edu/desire

Project Overview: Project creates engineering design experiences in advanced manufacturing aimed to increase the participation of rural middle school students in STEM.

Research-Practice partnerships with rural school districts require consideration of additional parameters to ensure stakeholders feel valued and are engaged throughout the research process.

Lessons Learned & Insights Gained

*1. **Maximize the Strengths of Rural Schools**. Work to overcome the challenges of implementing STEM programming in rural schools by leveraging their strengths.*

*2. **Learn to Adapt.** Understand that the nature of working with K-12 schools often necessitate changes to implementation strategies. Be prepared and willing to pivot.*

Equity

***Meeting Teachers "Where They Are".** We adapted our professional development to provide more iterative and personalized training to support the teachers' growth.*

***Scaling Content**. Course content was scaled back to make it more suitable for non-STEM educated teachers and to make the best use of available school resources.*

New Challenges & Next Steps

Ongoing challenges in obtaining informed consent from students and parents, and decreased engagement with our industry partners amid the pandemic.

***Next Steps:** Develop a framework for course design and implementation that may prove useful for other research-practice partnerships in rural areas.*