



Institute for Technology-
Infused Learning

Preparing Students for the New Manufacturing Economy: An Integrative Learning Approach

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Project type: DTI

Project URL: Under Development

Project Overview: The project employs a horizontal/expansive learning approach that scaffolds a set of technology knowledge and skills in a progressive and integrated fashion. The project is run in authentic learning environments of high school career and technical education (CTE) classes where students engage in learning and doing through a set of challenge projects that are paired with clear learning goals.

Research on learning in authentic environments needs to be sensitive to the pressures (e.g., accountability, curriculum requirements, certifications) that school administrations experience from state governments. Our project keeps clear communication channels with our participating school systems so that our research goals can be achieved while helping the school achieve their goals.

Lessons Learned & Insights Gained

- *The Horizontal Learning Model supports both technology learning & identity development, but the devil is in the details. The projects and progressions have to be carefully designed*
- *Training of mentors to support HLM in high school CTE classes is challenging because of the breadth of knowledge required*
- *HLM projects can be designed to enhance student interest in the curriculum (one rural school assigned students who did not first show interest in the class, but HLM accommodated this)*

Equity

- *The project is targeted at public schools that serve under-represented populations to overcome the self-selection problem of typical technology-based experiences*
- *Our project is run specifically in schools that serve rural, largely Hispanic, low SES, and under-served communities*
- *HLM can bring students with few community models (e.g., no technology and manufacturing jobs in rural Texas beside oil fields) to explore new career/learning opportunities*

New Challenges & Next Steps

- *We are continuing our data collection and research to achieve our overarching goals*
- *Texas implemented a new CTE requirement that students have to take specific Industry-based Certification (e.g., AutoCAD Level 1) – hence, our largest school left our project*
- *The requirement is relaxed for rural schools because they have difficulty in compliance*
- *We are actively seeking a ‘near rural’ school district to replace the school we lost*
- *We are scheduled to present our work at the upcoming State CTE regulatory panel where we hope to bring greater understanding for how our project prepares FUTURE worker*