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STUDENTfacturED

Providing a Way to "STEM" Out from Behind Old School Walls and Into the Real-World Workplace

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Troubling Statistics

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- Number of STEM-related degrees:
  (National Center for Education Stats)
  - In 2001 : 385,842 (12.9% of all)
  - In 2009 : 433,742 (10.7% of all)
- Number of high school grads meeting ACT college readiness benchmarks:
  - English : 66%
  - Reading : 52%
  - Math : 45%
  - Science : 30%
  - Only **25%** meet all 4 benchmarks

Why is STEM degree interest low?

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ASQ survey (2012) of 6th to 12th graders found 67% concerned about STEM degree path obstacles

- Preparation for college-level STEM subjects, particularly math & science
- Amount of work & studying involved
- High cost
- Longer time commitment

The Necessary Changes

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- ✓ Better preparation for college & the workplace
- ✓ Easier & cost effective path "value-added"
- ✓ More efficient *accelerated*

A Solution

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*Made by **STUDENTS** for **STUDENTS***

- A student-run biotechnology manufacturing business enterprise
- Launched January 2012
- Students assume real business functions – on-the-job training, *before the job*

Company Focus

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- Products: instructional supplies
  - ❑ Biotechnology, & Biology, Chemistry, Health Sci ?
  - ❑ Custom
  - ❑ Equipment ?
- Customers: educators
  - ❑ SLCC & local high schools
  - ❑ ???
- Income $$$: reinvest into CMO for
  - ❑ Mentor / staff support
  - ❑ New product development

Outcomes

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- Forced application of knowledge and skills
- Mistakes → lessons learned
- Integrated and deep learning – Bloom's *Analyzing/Evaluating/Creating* levels
- Transformative mentoring by faculty
- Interns want additional training

Student Testimonials

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" . . .I have learned again the importance of communication, mutual support . . ."

". . . This experience has made me more excited and confident to work for a company . . ."

". . .The best part about STUDENTfacturED is that I got real world knowledge and I did not have to spend hundreds of dollars on a new text book . . ."

Student Testimonials (cont.)

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"... One the most important lessons I can take from this experience is how to work in teams ..."

"... All the skills I have learned will definitely help build my resume ..."

"STUDENTfacturED provides great exposure to working in a regulated industry. This type of experience is unrivaled in any classroom I've ever seen."

Lessons Learned (so far)

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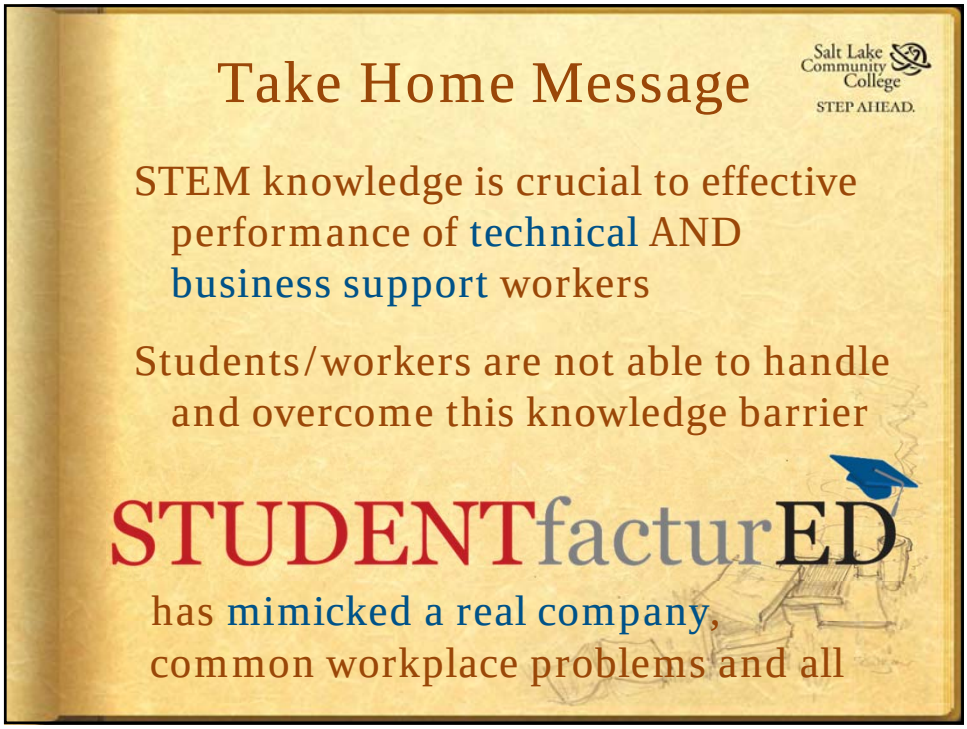
- Students are very capable within their discipline
- Limited biotechnology & science understanding hindered students' performance
  - Biomanufacturing : product usage / production sequence
  - Accounting : production budget
  - Marketing : market research & product marketing


Take Home Message
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STEM knowledge is crucial to effective performance of technical AND business support workers
Students/workers are not able to handle and overcome this knowledge barrier
STUDENTfacturED
has mimicked a real company, common workplace problems and all