Assessing 21st Century Skills The BATEC Way

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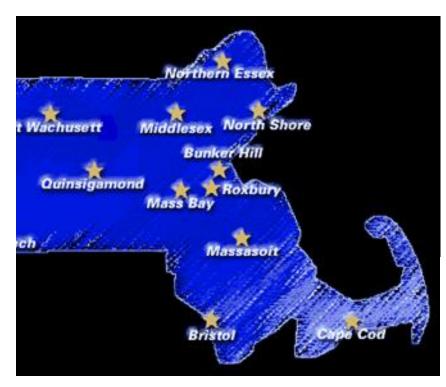
BATEC Service Area

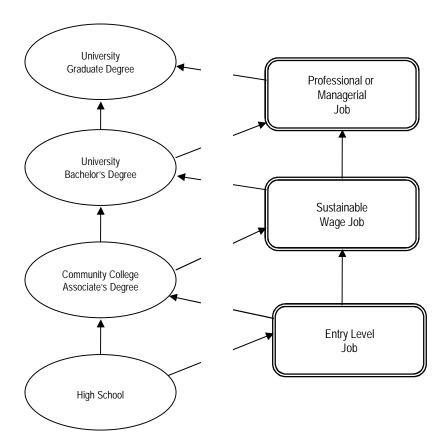**University of Massachusetts Boston**

Community Colleges

n   Roxbury CC

n   Bunker Hill CC

n   Middlesex CC

n   Quinsigamond CC

n   Bristol CC

n   Northern Essex CC

Over 30 High School Districts

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Our common education model:

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What our Students are Experiencing:

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BATEC Vision

n Curriculum Development

- Regionally Connected
- Advanced in Content and Pedagogy
- Industry-Linked
- Gap Analysis

n Professional Development

- High Quality
- Combination of Technology and Pedagogy
- Multiple Formats

n Student Success

- Informed decisions
- Holistic – Technical, Employability Skills, Leadership
- Connected to Industry

n Education, Industry and Community Connections

- Mutually-Beneficial Partnerships
- Research
- Career Development
- Lifelong Learning
- Regional Economic Growth

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21st Century Skills Requirements

(From BATEC Information Technology Workforce Skills Study)

- Industry wants workers *with more* than deep technical skills

- Industry leaders emphasize the importance of soft skills

- 21st Century Agenda demands changes in teaching and learning

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Industry wants workers _with more than_ deep technical skills

Workers with Employability (Soft) Skills Such As:

- Communication - written & oral
- Teamwork – work productively in teams and groups
- Customer and Business Focus – get the big picture
- Listening – for meaning and comprehension
- Self-reflection & Time Management – achieve productivity
- Problem Solving – develop original solutions to novel problems
- Leadership and Ethics – lead and act responsibly

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Industry leaders told BATEC about the importance of soft skills

ü *"Technical skills get you the interview, soft skills get you the job."*

ü *"Technical employees must be able to advance to jobs that require more soft skills."*

ü *"We look for these (soft skills) during the interview –they're absolutely essential to success."*

ü *"The real world is unpredictable –soft skills are how you cope."*

ü *"We assume technical skills –we spend most of our interview time on the 'fit' for our organization."*

ü *"A person who does not fit can ruin the team…"*

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Other Voices demand changes in teaching and learning

"Today's education system faces irrelevance unless we bridge the gap between how students live and how they learn."
(*The Partnership for 21st Century Skills*)

"…students need more real-world problem solving, internships or apprenticeships in real work settings, and other more authentic experiences to make learning last and be useful"
(*21st Century Skills: Learning for Life in Our Times*)

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Assessment Project Goals

q Assess integration of employability skills in courses

q Capture the effect of industry participation in classes

q Increase motivation by incorporating industry participation in classes

q Strengthen relationships between academia and industry

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Assessment Project Process

- q Matched Faculty and Industry Partners
- q Partnership Dinner
- q Monthly Faculty Meetings to Discuss Projects
- q Data Collection
  - ü Surveys (Pre and post-semester)
  - ü Interviews
- q Classroom Visits
- q Final Presentations
- q Informal Meetings at the End

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Framing Questions

q What does it mean to teach and learn in a 21st century classroom?

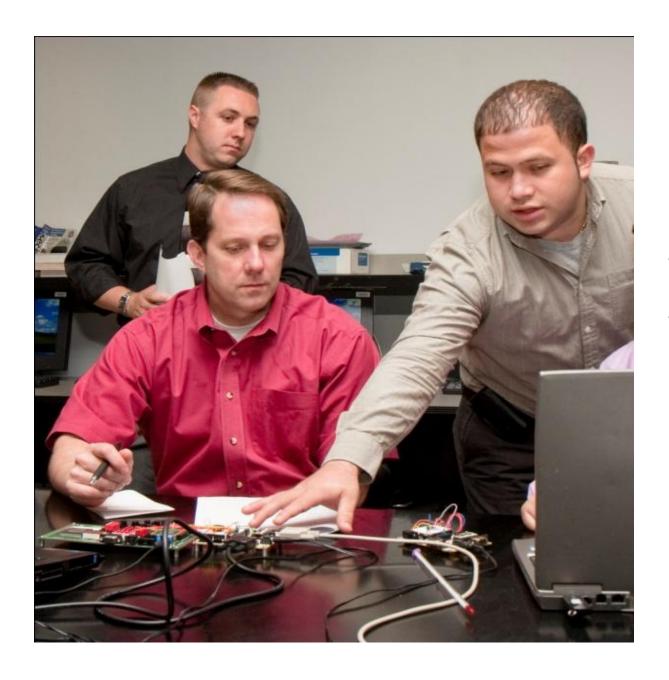q What role can industry play in transforming classrooms?

q How do we capture student performances?

q How can measure the results of these interactions?

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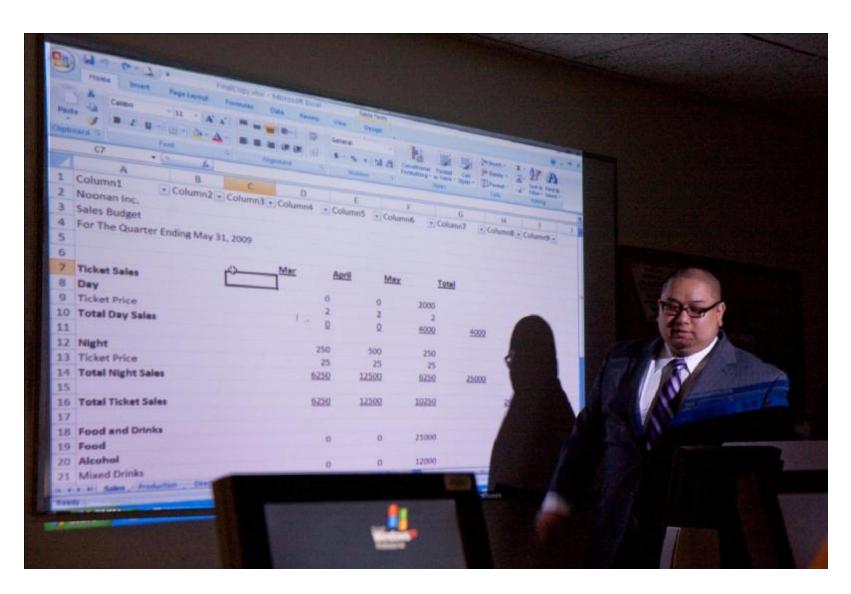
Industry Partners Conferring with Faculty Members

Student Demonstrating a System To Industry Partners

Student Conducting a Project Presentation

Students in a Mock Interview

Learnings (to date)

- Tested in a Variety of Courses with positive results

- Tested in a Variety of Student Levels with positive results

- Industry Partners Eager to Participate

- Class Enhanced by Multiple Industry Partners

  - Industry comments changed instruction in many classes

- Students Voiced more Satisfaction with the Instructors

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Student Survey Results

q Areas to Improve:

Verbal Communication	40%
Time Management	36%
Networking	27%
Leadership	26%
Written Communication	24%

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Industry Survey Results

q **Most Important Skills**
  - q Integrity/Honesty
  - q Attendance
  - q Perseverance
  - q Listening
  - q Self Management
  - q Teamwork
  - q Time Management

q **Weakest Skills**
  - q Initiative
  - q Time Management
  - q Written Communication
  - q Leadership
  - q Networking
  - q Receptivity

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Quotes from Students

q "He was a walking real world"

q "I knew there was going to be someone else there. This forced me to try harder because others beside the professor were looking at me."

q "Instead of thinking like a college student I was thinking at a professional level."

q "In a traditional course you learn one thing and then have to show it. In this course we had to use what we knew. Test different scenarios. I put everything I learned together."

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Quotes from Faculty

- "Learning is deeper. Industry brought credibility. Our business partner was used as a consultant to the groups. Someone who is fresh brings credibility."

- "When industry partners gave constructive criticism it was not for a grade but for a reason. I could see it in their eyes that they didn't mind doing it over again to make it better. There was thoughtfulness in reaction to the comment. It seemed to excite them. I saw this in a lot of students."

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Quote from Student (end of course)

q Employability skills gains

"I have progressed in speaking. I organize my ideas better but I am not always clear and concise. With my time management, I have been starting earlier than I used to so I am able to finish on time. I sometimes slip back to giving myself not enough time and end up rushing but that is happening less and less. I still need to greatly improve my leadership. I have taken charge of my work but have not progressed enough. Because of my improved time management I have been able to adapt to other needs of the group."

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