Steps to Get Business and Faculty Working Towards Student Success

Ann Beheler and Mark Dempsey, National CTC Innovations 2018
FACT

• Educators believe their graduates are prepared for work
• Businesses do not agree
• Depending on the study, percentages vary

• Percentages on each “side” are not always the same, but the trends match
96 percent of college and university chief academic officers said they are extremely or somewhat confident in their institution’s ability to prepare students for success in the workforce.

11 percent of business leaders strongly agree today’s college graduates have the skills and competencies that their business needs.

John M. Eger, “Business and Education Executives Just Don’t See Eye to Eye,” Huffington Post, 04/12/2014
72 percent of educators believe their graduates are ready for work in an entry-level job.

42 percent of business leaders agree.

MAJOR GOAL for All Technical Programs

- STUDENTS completing certificates and degrees are well-qualified for ready employment
- BUSINESSES are highly engaged
Business and Industry Leadership Team

- Developed/refined by National Convergence Technology Center National Science Foundation (NSF) Advanced Technological Education (ATE) Center led by Collin College
Business and Industry Leadership Team

- BILT Leadership is foundation of ALL the Center’s work
- Process used for 25 years, but refined and scaled since 2004 through the work of the CTC (regional, now national)
- Used to address the downturn in IT in the early 2000’s – primarily networking/cyber focused
- Shared with consortium of 64+ college and university partners
- Designed with lock-step cooperation with regional (and now national) businesses to ensure employment for graduates
- Also used for $20 million TAACCCT national grant with 7 colleges in 6 states
Business and Industry Leadership Team

*Using the BILT process ensures…*

- College curricula align with what businesses want to hire 12-36 months into the future
Business and Industry Leadership Team

The BILT model born from the idea that...

- Businesses that co-lead the work hire students because they have a greater say in defining Knowledge, Skills, and Abilities (KSAs) they want in graduates/applicants
  - Steer your curriculum to align with THEIR needs
- Business Advisory Council “on steroids”
- BILT works for any Career/Tech Education discipline or grant
Business and Industry Leadership Team

When and Who

- Meets quarterly, not 1-2 times per year (less than 4x/year is “out of sight, out of mind”)
  - Once a year in person
  - Three times a year virtually via web meeting
Business and Industry Leadership Team

*When and Who*

- Right people on the BILT
  - High-level technical executives
  - First-line hiring managers
  - Technicians
  - HR representatives, as long as they are not the sole reps for a company
Business and Industry Leadership Team

*When and Who*

- Regional BILT advising multiple colleges
The Ideal, Engaged BILT

- Identifies entry-level KSAs (which colleges map to curriculum then provide feedback to businesses on what they can and cannot do)
- Shares sector trends and job forecasting
- Develops deep, invested relationships with colleges preparing their future employees (they want to hire your graduates)
Best Approach for Recruiting Members

- Work with area groups that work with employers
  - College President and Board of Trustee members
  - Chambers of Commerce
  - Economic Development Corporations
  - Discipline-specific professional associations
Best Approach for Recruiting Members

- Do not use e-mail – it’s too easily ignored
- Phone calls or hand-address, stamped letters

- Value proposition for the prospective BILT members (“WIIFM”)
  - Outline their involvement
  - Specify the minimum time commitment
  - Request an RSVP
  - Follow up
The Job Skills Validation Process

Curriculum aligned based on solid business-driven process originated in the US Air Force

- Annual process
  - Modified DACUM to identify KSAs needed in graduates (4-6 hour meeting)
  - Faculty determine how to address KSAs through curriculum by cross-referencing desired KSAs to existing courses and developing new modules or courses to fill gaps
  - National work feeds local BILTs
The Job Skills Validation Process

*Curriculum aligned based on solid business-driven process originated in the US Air Force*

- Facilitator – process expert keeps the meeting running
- Recorder – enters the votes in real-time into a spreadsheet and prepares the meeting minutes
- Subject matter experts
- Faculty – attend as observers
The Job Skills Validation Process
The Job Skills Validation Process

Curriculum aligned based on solid business-driven process originated in the US Air Force

- Employers discuss and rank the job skills on a scale of 1 to 4 (1 = least important, 4 = most important)
- Consensus is not the goal
- Record the votes
- Focus on skills needed for an entry-level employee coming out of the college’s program 12-36 months in the future
## National Business and Industry Leadership Team (BILT) Knowledge Domains - updated August 2017

* Skills for an entry-level IT worker looking for a job 2-3 years from Fall 2017.
* Be sure ITIL (change management and root/cause analysis) elements are covered as needed in every course. ISO 9000/9001 Quality Management criteria.
* Consider on-site tours.

<table>
<thead>
<tr>
<th>KSA</th>
<th>Knowledge, Skill, Ability</th>
<th>Topics</th>
<th># votes</th>
</tr>
</thead>
<tbody>
<tr>
<td>K1</td>
<td>Linux / Unix OS</td>
<td>Current within 3 years, as of now the operating system of the IoT</td>
<td>13 2 1 3.9</td>
</tr>
<tr>
<td>K2</td>
<td>Windows Server OS</td>
<td>Current within 3 years, need this background for AWS and Azure</td>
<td>2 12 1 3.1</td>
</tr>
<tr>
<td>K3</td>
<td>Operating System</td>
<td>Includes topics such as account mgmt, installing apps, command line, directory, file structures, os scripting, config modification, backup/restore, os admin, scheduler, stopping/starting services, change control, documentation, awareness of KPI and SLA/VLA, log files and patches, ACL.</td>
<td>15</td>
</tr>
</tbody>
</table>
| K4      | OSI Model                 | Layer 1: physical layer  
Layer 2: data link layer  
Layer 3: network layer  
Layer 4: transport layer  
Layer 5: session layer  
Layer 6: presentation layer  
Layer 7: application layer  
Provide basic framework for how it all works, including how cloud computing has impacted the conceptualization of the seven layers. Plus and awareness of IP and multimedia services.  
Understand that OSI is the framework for all problem solving and troubleshooting. | 15 1 3.9 |
| K5      | Enterprise Mobility and Collaboration | Collaboration Technologies - Making enterprise mobility work. A basic understanding of the building blocks for how enterprise mobility operates. Also an awareness of the security requirements.  
* PSTN  
* messaging  
* VOIP  
* videoconferencing  
* Bluetooth  
* presence  
Enterprise Mobility - Applying collaboration technologies to solve business problems. Operational-level proficiency to install, use, configure, operate from a user viewpoint. Understand domain and relevance. Case studies.  
* messaging  
* use VOIP  
* file sharing  | 7 4.0  |
Reporting Back to the BILT

- Give them feedback to show they are valued
  - Explain how you plan to change the courses, degrees, and certificates to align with their needs
  - Let them how their feedback is being implemented
- If they want changes you cannot make, discuss the reasons (don’t ignore them) and see if they can help remove barriers
- Send out meeting minutes without two weeks of meeting
Three Virtual Meetings Annually

- Trends identified to get head-start on curricular changes
- Informal forecast of future employee need
- Program review for multiple colleges (certificates/degrees)
- Review/approval of major grant activities/ progress
- Other topics as appropriate
Benefits to Students

- Sought after by BILT members because of their ownership of courses, certificates, and degrees
- First considered for opportunities (internships) before they graduate – because BILT members engaged with your program
- Mentoring from BILT members
- Participation from BILT members in workshops, capstone classes, job fairs
Benefits to Faculty

- Assurance they are teaching what industry wants
- Get assistance from BILT members to be guest speakers and help with recruitment events
- Alerted of future industry workplace trends in time for curriculum adjustment
- Receive free or reduced-cost professional development for faculty from BILT members
- Serve on externships with BILT member companies
Benefits to BILT Members

- Strengthen pipeline of “workforce ready” job candidates
- Develop professional relationships with other BILT members
- Give back to the community in a way that makes a real difference
- Know their time and their feedback is valued
From a BILT Member’s Perspective
HOW IS A BILT DIFFERENT?

**ADVISORY:**
- Data’s exponential
- Industry advised
- Suggested KSA
- Business suggests enhancements to curriculum
- Business is not vested in long-term success of programs
- Ignored advice erodes business commitment

**BUSINESS-LED:**
- Industry Led
- “Required” KSA
- Curriculum recognized by BILT
- Business has “skin-in-the-game”
- Business has the opportunity to reduce OJT (On-the-Job-Training)
- Business has ability to “give back” to community in a multi-generational life-changing way
RESULTS OF AN ACTIVE BILT

- Curriculum aligned to produce workforce-ready grads
- Involvement in recruitment events
- Professional development for faculty
- Internships for students; externships for faculty
- Business mentoring for both students and faculty
RESULTS OF AN ACTIVE BILT

- Guest speakers
- Co-authoring whitepapers
- Evaluation of capstone presentations
- Participation in panels at conferences
- Hiring of graduates
What Can You Do?

- Schedule quarterly meetings (web meetings are okay)
- Invite faculty to attend your meetings
- Allow the BILT members to regularly share their perspective on future trends
- Conduct annual job skills validation – vote in real-time (avoid surveys)
- Crosswalk the revised job skills to curriculum and make adjustments
- Report back to the BILT, make them feel valued
Questions?
Resources

- BILT Resources from the Convergence Technology Center
  - www.connectedtech.org

- Webinars on employer engagement from the Centers Collaborative for Technical Assistance:
  - www.ATEcenters.org/ccta

- Mark Dempsey – mdempsey@collin.edu
- Ann Beheler – abeneler@collin.edu

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