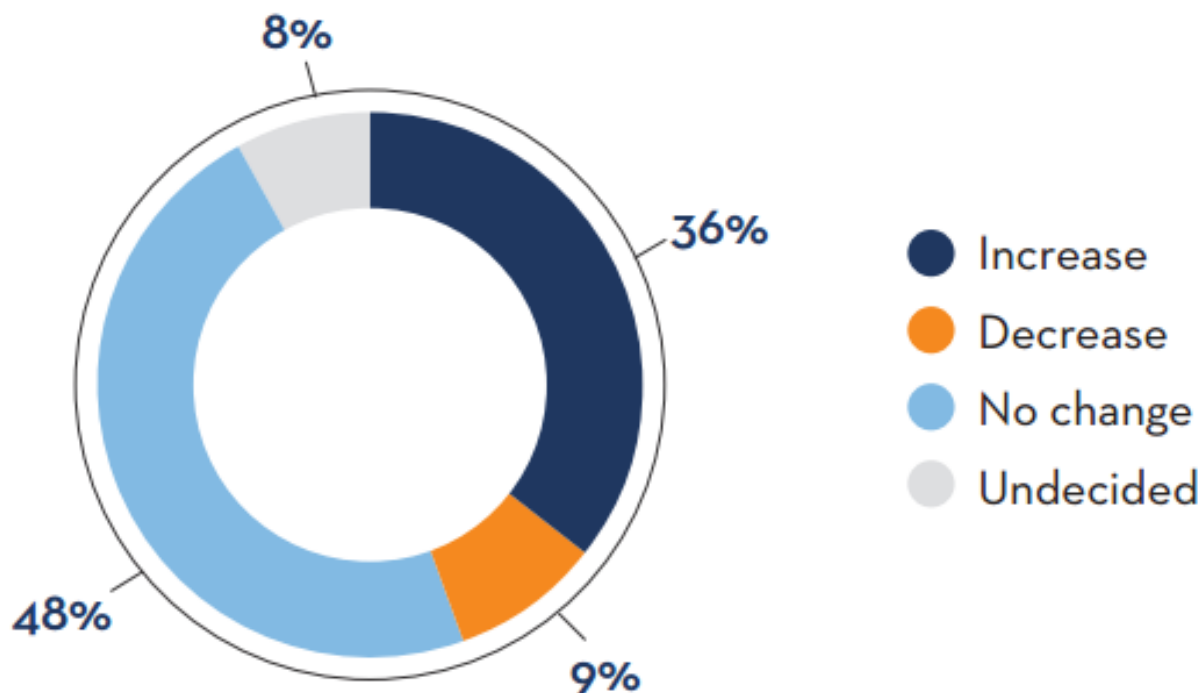


How to Know for SURE What Businesses Want Your Grads to Know

Ann Beheler
Matt Glover
Helen Sullivan
HI-TEC 2016

DOES YOUR COMPANY, AT YOUR LOCATION, PLAN TO INCREASE, DECREASE OR MAKE NO CHANGE TO ITS NUMBER OF FULL-TIME, PERMANENT EMPLOYEES IN ALL OF 2015 COMPARED TO 2014?



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

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

Setting the Context for BILT

Developed by National Convergence Technology Center
National Science Foundation (NSF) Advanced
Technological Education (ATE) Center led by Collin
College

- 2004 forward
- Consortium with 40+ college and university partners
- Primarily in the area of networking infrastructure/mobility/data communications
- Developed to address the downturn in IT in the early 2000's
- Designed with lock-step cooperation with regional and now national business to ensure employment for graduates



CTC Partners



El Centro College

DALLAS COUNTY COMMUNITY COLLEGE DISTRICT



GEORGIA SOUTHERN UNIVERSITY



THE TYPICAL BUSINESS ADVISORY COUNCIL

- Meets 1 or 2 times per year, sometimes the only time the reps are on campus
- Advises regarding a program, sometimes just reviewing rather than leading
- BAC members often find their time split between colleges because each college has its own council
- May be more of a “rubber stamp” relationship
- May or may not be truly engaged
- May or may not be people at the right level to really help with your program
- May result in programs that produce graduates that are not tightly aligned with business need

SUGGESTED ENGAGED BILT MODEL

Business and Industry **Leadership** Team (BILT)

Regional Council (ours is both national and local) advising multiple colleges

Meets **quarterly**, not 1-2/year

Right people on the council

- ✓ High-level **technical** executives
- ✓ First line managers
- ✓ Technicians
- ✓ HR representatives as long as they are not the sole reps for a company



THREE VIRTUAL MEETINGS ANNUALLY

- Trends identified to get ahead of 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

ONE FACE-TO-FACE MEETING ANNUALLY

Curriculum aligned based on solid business-driven process originated in the U. S. Air Force

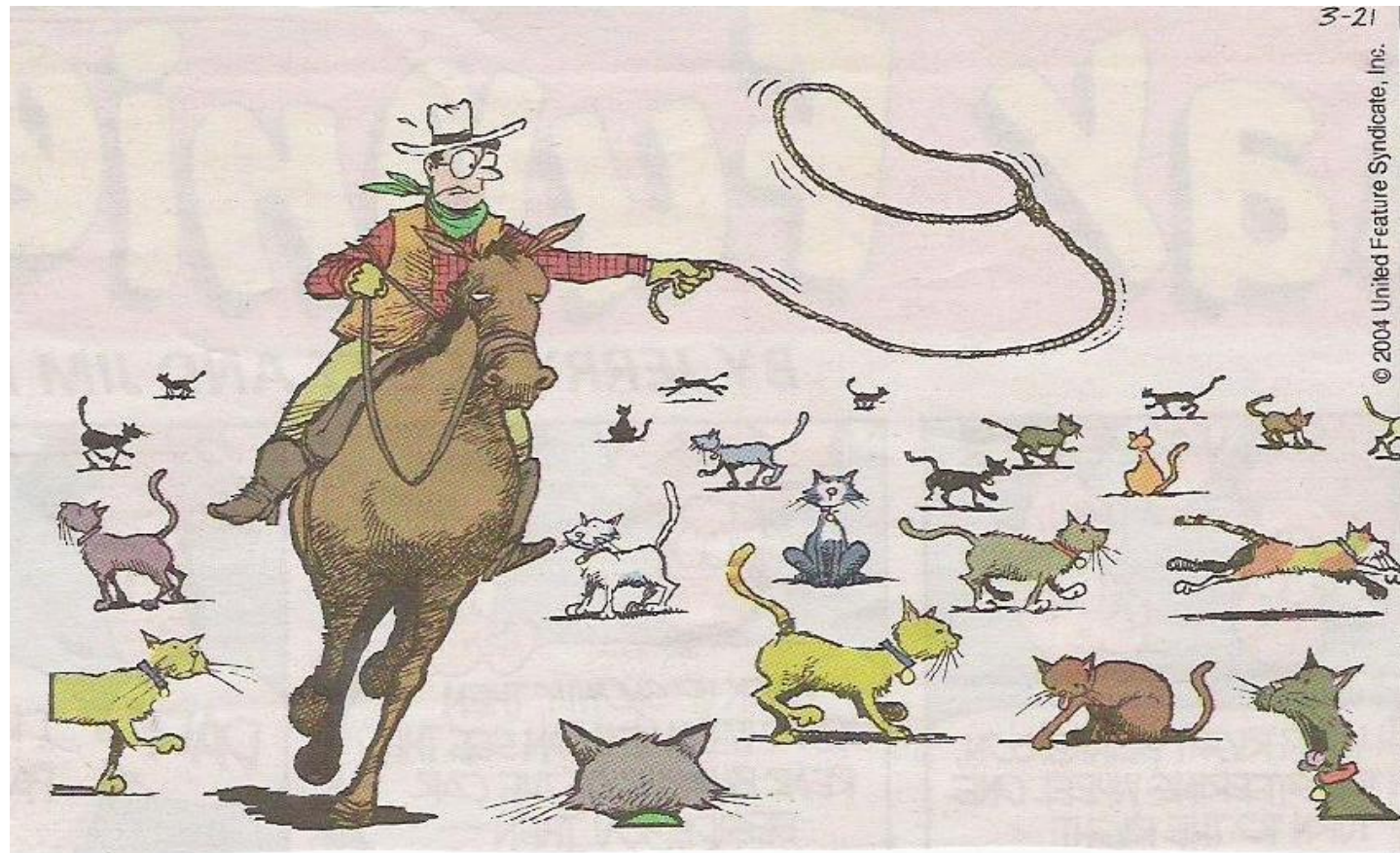
- Modified DACUM to identify Knowledge, Skills, and Abilities needed from graduates (4-6 hr. process)
- Faculty determine how to address KSAs through curriculum by cross-referencing desired KSAs to existing courses and developing new modules or courses to fill gaps



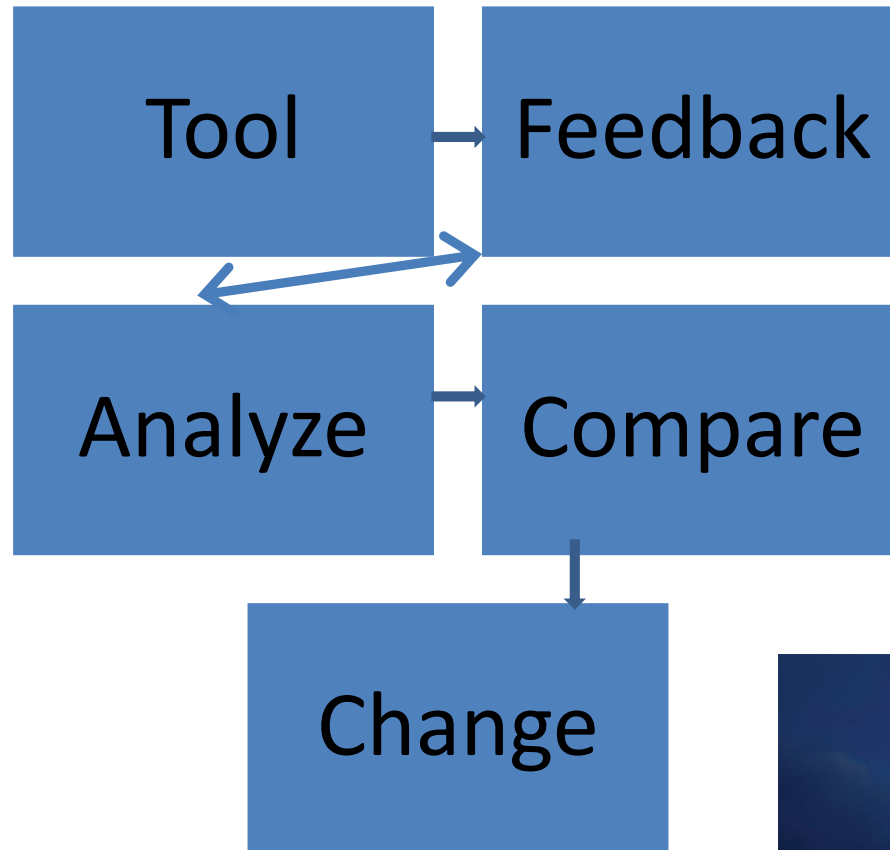
Two worlds that work together



Working with businesses and faculty is sometimes like:



The KSA Process – framework for getting critical information



Skills businesses want

- KSA process determines knowledge and skills expected of entry-level employees
- KSA process gets feedback from businesses
- *Consensus* is not the goal
- Representative data is the goal
- KSA: Knowledge, Skills and Abilities



Process overview

- Invite Business reps to meeting
- Use CTC spreadsheet as basis
- Assign roles
- Get feedback (ratings) on KSAs
- Determine minimum number average for rating (for KSA to be included in curriculum)
- Crosswalk from KSAs to course outcomes (to be covered Tuesday)



Roles

- Industry Subject Matter Experts
 - **Participate** in validation ratings and discussion
- Faculty Subject Matter Experts
 - Attend as **observer**
(participate only if called on)
- Facilitator
 - **Process** expert responsible for efficiency & effectiveness of meeting
- Recorder
 - **Records** discussion & prepares meeting minutes



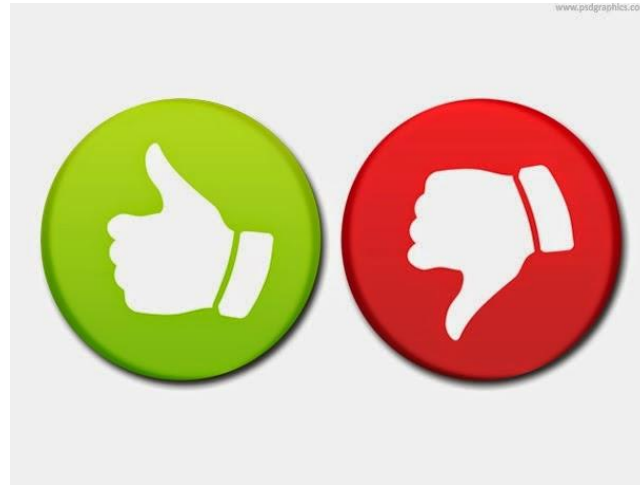
Ground Rules Used

- Please turn off cell phones or put on silent/vibrate mode
- Recognize that SMEs come from variety of business environments
- Respect differing opinions
- Participate fully in:
 - Validation ratings
 - Discussion is VERY IMPORTANT



Validation Process

- Explain Rating Scale and Process
- Rate each KSA (line by line):
- Rating Criteria
 - *Importance*
 - *Level*
 - *Time Spent*
 - *Difficulty*
- Rate Each with **Number Card** (optional)





Importance

- How **important** is it for entry level employees to know or do this skill?
- 4 – Highest (*Crucial and highest priority*)
- 3 – High (*Lack of knowledge **might** impact quality of service*)
- 2 – Low (*Lack of knowledge **might not** impact quality of service*)
- 1 – Lowest (*Lack of knowledge **will not** have direct impact on quality of service*)

Level



- How **good is good enough** for entry-level employees to know or do the skill?
- 4 – Highest (*Can recall and apply **complex info** with no supervision.*)
- 3 – High (*Can recall and apply **many facts** with spot checks.*)
- 2 – Low (*Can recall **some facts** but requires help.*)
- 1 – Lowest (*Can recognize facts but needs **close supervision**.*)



Time Spent

- How **frequently** are entry-level employees expected to know the skill?
- 4 – Highest (*Spends **much more** time doing this skill than most.*)
- 3 – High (*Spends a **little more** time doing this skill than most.*)
- 2 – Low (*Spends **somewhat less** time doing this skill than most.*)
- 1 – Lowest (*Spends **much less** time doing this skill than most.*)

Difficulty



- How difficult is it for entry-level employee to know or do the skill?
- 4 – Highest (*Much more difficult to learn.*)
- 3 – High (*Somewhat more difficult to learn.*)
- 2 – Low (*Somewhat easier to learn.*)
- 1 – Lowest (*Much easier to learn and perform.*)

Ratings for each skill:

considers Importance, Level, Time, Difficulty

- Put **number of people** who voted “4” in cell on spreadsheet
- Put number of people who voted “3” in cell on spreadsheet
- Put number of people who voted “2” in cell on spreadsheet
- Put number of people who voted “1” in cell on spreadsheet

Example

National Business and Industry Leadership Team Knowledge Domains		4	3	2	1	Avg
Category	Description	Ratings				
Operating System Maintenance	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/OLA	2	4	5	0	2.727273
OSI Model	Includes topics such as topologies, transmission media, Ethernet specs, CSMA/CD, operation of hubs, switches, routers, OSI model, TCP/IP protocols, IPv4, IPv4, CIDR addressing, subnetting, gateways, routing and routing protocols, transport protocols, IPv6, IPv4/6 integration, IPv6 tunnelling, hybrid environment, SDN/OpenFlow	9	1	0	0	3.9

Context

- Capture ratings for all KSAs
- Write down feedback points
- Update list of KSAs and their definitions
- Perform crosswalk
- Report actions to BILT in at future meeting



From the BILT Chair's Perspective



Matt Glover– *Chief Technology Officer, Le-Vel LLC*
Chair, National BILT for Networking and Data
Communication for NISGTC/CTC

THE BILT FROM THE CHAIRMAN'S PERSPECTIVE

ADVISORY



BUSINESS LED



Differentiators between a business advisory council vs. BILT

- **Industry Advised**
 - **Suggested KSA**
 - **Business is suggesting enhancements to curriculum**
 - **Business is not vested in long-term success of programs**
 - **Ignored advice erodes business commitment**
- **Industry Led**
 - **Required KSA**
 - **Curriculum must be recognized by the BILT**
 - **Business has “skin-in-the-game”**
 - **Business has the opportunity to reduce OJT (On-the-Job-Training)**
 - **Business has the ability to “Give Back” to the community in a multi-generational life changing way**

SERVING ON BILT – DRIVING REAL VALUE

We are in the business of employing the future of America.

STUDENT



EMPLOYEE



BILT - What is in it for me?

PROFESSOR

- Delivering relevant, industry sought after skills
- Students more prepared to enter the workforce
- Early business engagement exposes students with business perspective & **taxonomy** (Mentoring, internships, externships and business graded capstone courses)

LEADER

- Entry-level employees with “hit-the-ground-running” skills
- Ability to tangibly give back to the community
- Ability to tap eager talent in transitioning to the workforce
- Time value realized and appreciated

NATIONAL BILT SETS STAGE FOR CONSORTIUM

National BILT – Laying the foundation



- **Guide Knowledge, Skills, and Abilities (KSAs) for mapping curriculum**
- **Maps KSAs based on Industry and National needs**
- **Members participate virtually & annually in person**
 - **Mentoring students / Participating in Capstone courses**
 - **Leading virtual internships / externships**
 - **Speaking at conferences**
- **Provides a framework for New Regional BILTs to leverage**

Regional BILT – Crafting education to critical markets

- **Focused on regional industry needs (similar regions share)**
- **Curriculum mapping transferred to local/regional BILT constructed similarly for validation/modification**
- **Members participate virtually**
 - **Mentoring students**
 - **Participating in Capstone courses**
 - **Leading virtual internships / externships**



Recap: BILT with KSA

KSA process brings results

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