Introductions

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Presenter

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Ann Beneier
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Mark Viquesney
Convergence Technology Center
**Agenda**

Workforce needs assessment...
1. in the ATE program
2. practices among ATE grantees
3. methods
4. examples
5. data in evaluation

**Handout**

Available from
resources.evalu-ate.org

Keyword search:
needs
Objectives

- Know about the state of workforce needs assessment among ATE grantees
- Be familiar with an array of needs assessment methods that have been used successfully by ATE centers
- Understand how needs assessment data can be used in evaluation
- Be inspired to learn more about workforce needs assessment and use it for project planning and evaluation
Has an assessment of workforce needs for technicians been conducted?
Does the project work with employers to address their current and future needs for technicians?

All projects must be guided by a vision that recognizes students as life-long learners together with the needs of the modern workplace.
Effective technological education programs should respond to **employers' needs** for well-prepared technicians with the ability to learn and embrace change.

**Project Cycle**

- **Assess Needs**
  - What knowledge and skills do workers need?
  - What industry needs are going unmet?
  - How is our institution especially suited to address our region’s workforce needs?

- **Evaluate**
- **Design**
- **Implement**
Needs Assessment Perspectives

- Where should we invest our resources to enhance our long-term survival?
- Strategic human resource development
- Does the program address a real industry need?
- What do workers need to know and be able to do?
- What skills and knowledge do new graduates lack?
Purpose

To investigate the issue of workforce assessment as a component of CTE programs, with the focus on ATE.

Research Questions

To what extent is workforce needs assessment used among ATE grantees?

What type of workforce needs assessments are most frequently conducted?

What are the outcomes of ATE needs assessments?

Data Source: 2008 ATE survey
Sample

162 ATE centers & projects → 130 projects → 103 projects with strong connection to CTE

32 centers

27 not focused on CTE

50% conducted a workforce needs assessment in 2008
of those who did needs assessments...

75%
collected primary data

Focus of Primary Data

Local 72%
Regional 59%
National 46%
87% of those who did needs assessments used secondary data.
Points to Consider

- The more information collected and considered in decision making, the greater levels of organizational effectiveness.
- Top-level managers prefer personal sources over impersonal sources.
- An increasingly mobile workforce points to a need for equal use of regional and national data.
- Mixed needs assessment methods/sources balance the strengths and weaknesses of each.
Secondary Data

Bureau of Labor Statistics
State agencies
Industry groups

Bureau of Labor Statistics

See Employment Projections

✓ “Which occupations seem to be growing?”
✓ Updated every other year
✓ Drill down to metro area
✓ Doesn’t show nonindustry employment

www.bls.gov
State Websites

See Economic Development
✓ “Which occupations will have the largest demand?”
✓ “What about just among the occupations needing vocational training?”
✓ Through 2018
✓ Varies greatly by state

O*NET Resource Center

See For Economic Developers
✓ “What skills and abilities do certain occupations require?”
✓ Surveys available for modification
✓ Updated annually

www.onetcenter.org
Primary Data

Interviews
Focus groups
Surveys
Observations
DACUM
CTC Business Connection

Identifying the Problem

- 70,000 - 100,000 IT and telecommunications workers laid off in North Texas region in early 2000s
- Increasing reliance on information and communications technologies
- Needed to prepare for the next wave of information and communications technology industry needs
Identifying Need

✓ Does regional business and industry expect to hire workers in the region now and in the future?
✓ If so, what is the job description?
✓ How many of each job does industry expect to hire?
✓ What skills does each job demand?
✓ What combination of education and experience does business expect in their future employees?

CTC is Industry-Driven

✓ Focus group was the seed
✓ Business Advisory Council (BAC) had 40-50 members initially—now close to 100
✓ Have met quarterly since 2002
✓ BAC “owns” program
Business Advisory Council

- Identify trends for continuous adjustment in curricular offerings
- Create and update job skills analysis annually
- Validate course content and degree/certificate plans
- Update labor market demand in partnership with Interlink
- Support faculty and students

DACUM

DACUM = Developing A Curriculum
DACUM

Occupational skill profile used for
✓ instructional program planning
✓ training needs assessment
✓ curriculum development
✓ competency test development

DACUM Process

✓ Panel of top-performing workers describe their occupation
✓ Facilitator works with panel to create a chart of duties and tasks
✓ Panel defines knowledge and skills, worker behaviors, and future trends
DACUM Philosophy

Expert workers can describe and define their jobs more accurately than anyone else.

From www.dacumohiostate.com

DACUM Philosophy

An effective way to define a job is to precisely describe the tasks that expert workers perform.
DACUM Philosophy

All tasks, in order to be performed correctly, require certain knowledge, skills, tools, and worker behaviors.

Modified DACUM

- Academic staff generate list of skills using skills standards or input from business focus group
- Business and industry partners add or subtract from list
- Skills list is updated annually
### Courses-Skills Matrix

<table>
<thead>
<tr>
<th>SKILLS</th>
<th>COURSES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ITCC1302</td>
</tr>
<tr>
<td><strong>Operating System</strong></td>
<td></td>
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<tr>
<td>Unix/Linux</td>
<td>E</td>
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<tr>
<td>Windows</td>
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<tr>
<td>MVS</td>
<td>E</td>
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<tr>
<td>Wireless</td>
<td>E</td>
</tr>
<tr>
<td><strong>Operating System Maintenance</strong></td>
<td></td>
</tr>
<tr>
<td>Configuration modification</td>
<td>E</td>
</tr>
<tr>
<td>System administration</td>
<td>E</td>
</tr>
</tbody>
</table>

### Implementation

1. BAC identifies required skills
2. Faculty cross reference skills with existing courses in the courses-skills matrix
3. Faculty design courses & modules to fill gaps in matrix
4. Academic staff configure courses into degrees & certificates
5. BAC reviews matrix, new courses, & degree/certificate patterns
6. Faculty develop new modules & courses
7. Curriculum is disseminated to partner & mentored colleges & others
“Win-Win” for Business

Business representatives

✔ Know that their input has been heard and acted upon
✔ Have assurance they can hire our students and know they have the necessary knowledge, skills, and abilities
✔ Are more willing to help with internships/externships and other needs

“Win-Win” for Students

They get hired!
IT Workforce Skills Study

- Deborah Boisvert, PI
- Study led by Peter Saflund/The Saflund Institute

Boston Area Advanced Technological Education Connections
Research Questions

- Employer satisfaction
- Technical and employability skill importance
- Critical needs
- Future workplace

Methods

Focus group
Hiring managers or
Strategic planning or
Workforce development
Methods

Phone Survey
Identified by word of mouth
Operations 10%
Hiring managers 10%
Technical managers 50%
Technical workers 20%
Strategists & architects 10%

Targeted Industries
Financial Services
Insurance Services
Healthcare
Retail
Manufacturing
Telephone
Software Development
Interview Questions

- Perception of community college
- Importance of skills
- Most pressing need
- Forecast of workforce demands
- Changing environment

For More Information...

www.batec.org
Certification for Oceanographic Professionals: A Needs Assessment Study

MATE
MARINE ADVANCED TECHNOLOGY EDUCATION CENTER
Deidre Sullivan, PI

Study supported by the National Oceanic and Atmospheric Administration

Modified DACUM

✅ Business & industry experts
✅ 1½ - 2 days
✅ Run in conjunction with a conference
✅ Sent survey in advance to DACUM participants
Survey

- Professional societies
- Other faculty/staff
- Supervisors in B/I
- Undergrads and graduates
- Alumni
- Government policymakers

For More Information...

MATE

www.marinetech.org
Impact Evaluation

- Assess Needs
- Evaluate
- Design
- Implement

✓ What has changed?
✓ By how much?
✓ Is that any good?
### Using WNA for Evaluation

<table>
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<tr>
<th>Task</th>
<th>Required knowledge/skill</th>
<th>Data collection</th>
</tr>
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<tbody>
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<td>A1. Properly handle hazardous substances</td>
<td>Knowledge of basic radioisotope safety, such as lab procedures and isolation</td>
<td>Observe performance</td>
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### Use as a Baseline

**Students with Satisfactory Observation**

- What has changed?
- By how much?
- Is that any good?

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### Needs Assessment Results

<table>
<thead>
<tr>
<th>Task</th>
<th>Required knowledge/skill</th>
<th>Data collection</th>
<th>Percentage of OITs that demonstrate lab procedures satisfactorily</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1. Properly handle hazardous substances</td>
<td>Knowledge of basic radioisotope safety, such as lab procedures and isolation</td>
<td>Observe performance</td>
<td>&gt; 90%</td>
</tr>
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OIT = Oceanographic Instrumentation Technician
Upcoming Events

Workshop: October 27
ATE Conference – Washington, DC
Designing Practical & Useful Evaluations

Webinar: November 17
Getting Started with Your Evaluation
Register at www.evalu-ate.org/events

American Evaluation Association

Coffee Break Webinar Series
Evaluation Surveys Using SurveyGizmo
September 16, 2:00-2:20 PM EST

Annual Conference
November 10-13 in San Antonio, TX

Get more information/join at www.eval.org
Continue the Conversation

Join our listserv!

evalu-ate.org/community

Thank You!

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www.evalu-ate.org
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