

PerspECCtive

Theme:
Doing More with Less

Equipping the Next Generation

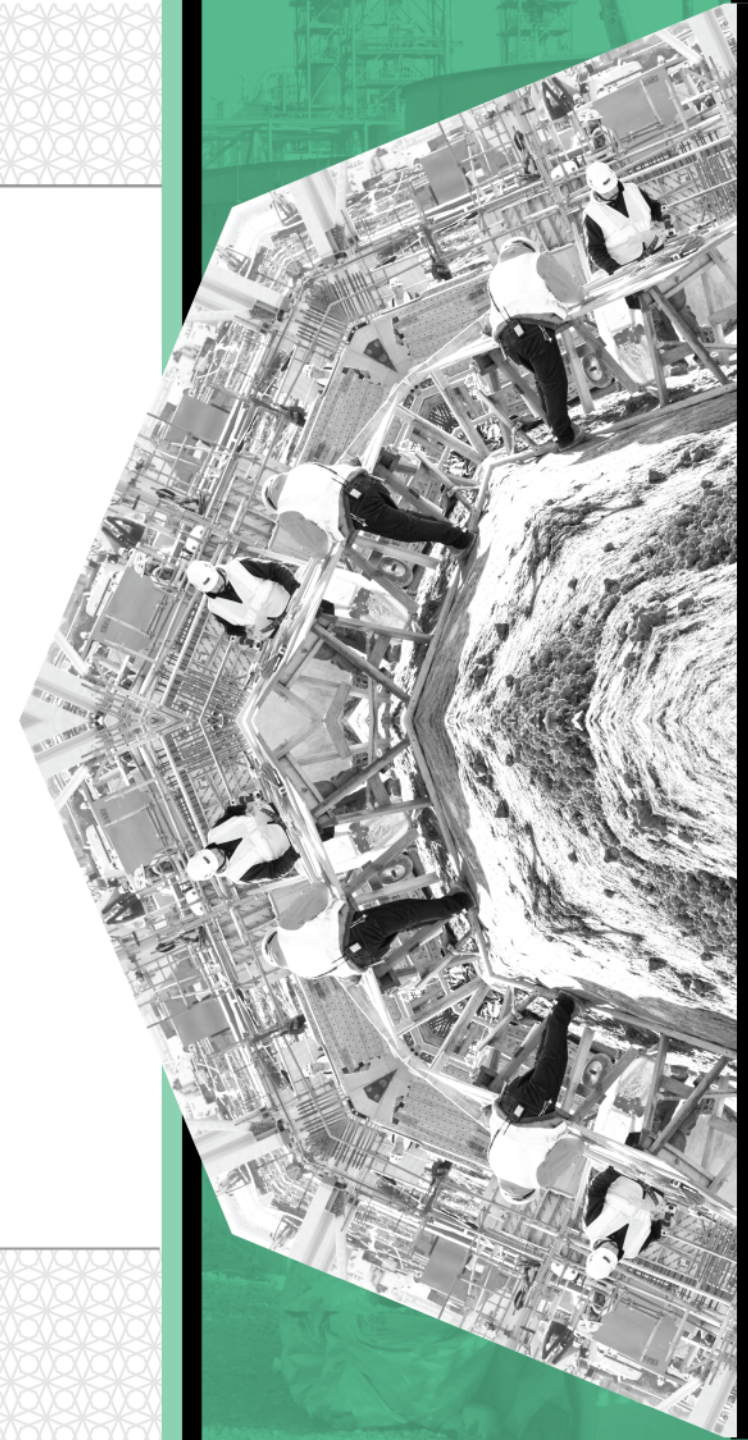
Developing Competencies that Deliver Business Outcomes



Year:
2017

Date:
Sept. 6-9

Location:
Boca Raton, FL



The need to improve both owner and contractor capabilities is well established

Top issues for the industry to address, as determined by ECC sponsors

1. Owner and contractor capabilities
2. Contractual risks and relationships
3. Planning and execution
4. Cost estimates and schedules set by backwards looking metrics

Your presenter today

Christiane Spitzmueller, Ph.D., University of Houston



- Professor in the Department of Psychology
- Conducts research on technical training in the energy industry, with a focus on developing competencies that deliver business outcomes
- Consults with major O&G owners and contractors globally

Our mission statement

Center for Applied Psychological Research

Conduct collaborative research with partner organizations **to create evidence-based training and development solutions with sustainable business impact** while providing application-based scientific training to Ph.D. students



Additional spending is not always the answer with respect to competency development – *smarter* spending is

Companies seek to develop competencies in many ways

- Formal training
- “On-the-job” coaching
- Mentorship
- “Stretch assignments”

Although the effectiveness of these approaches is seldom known

Training effectiveness is typically measured

1. Easy to understand language used in the session



2. Trainers were open, honest and fair



3. Enough time was spent on each topic



My team focuses exclusively on aiding companies in developing competencies

Our Approach

- ① Identify gaps
- ② Develop strategies
- ③ Ensure impact

Several common problems exist

1. **Training and development does not get appropriate management attention** and is seen as an HR problem, not a management problem
2. **Competency development is not tied to business outcomes**
3. **Employee competency gaps are oftentimes not systematically assessed**
4. **The right employees aren't getting the right training**, as employees are self-selected into training or assigned to “what's available”

Facility downtime case study



Business outcomes are not limited to performance

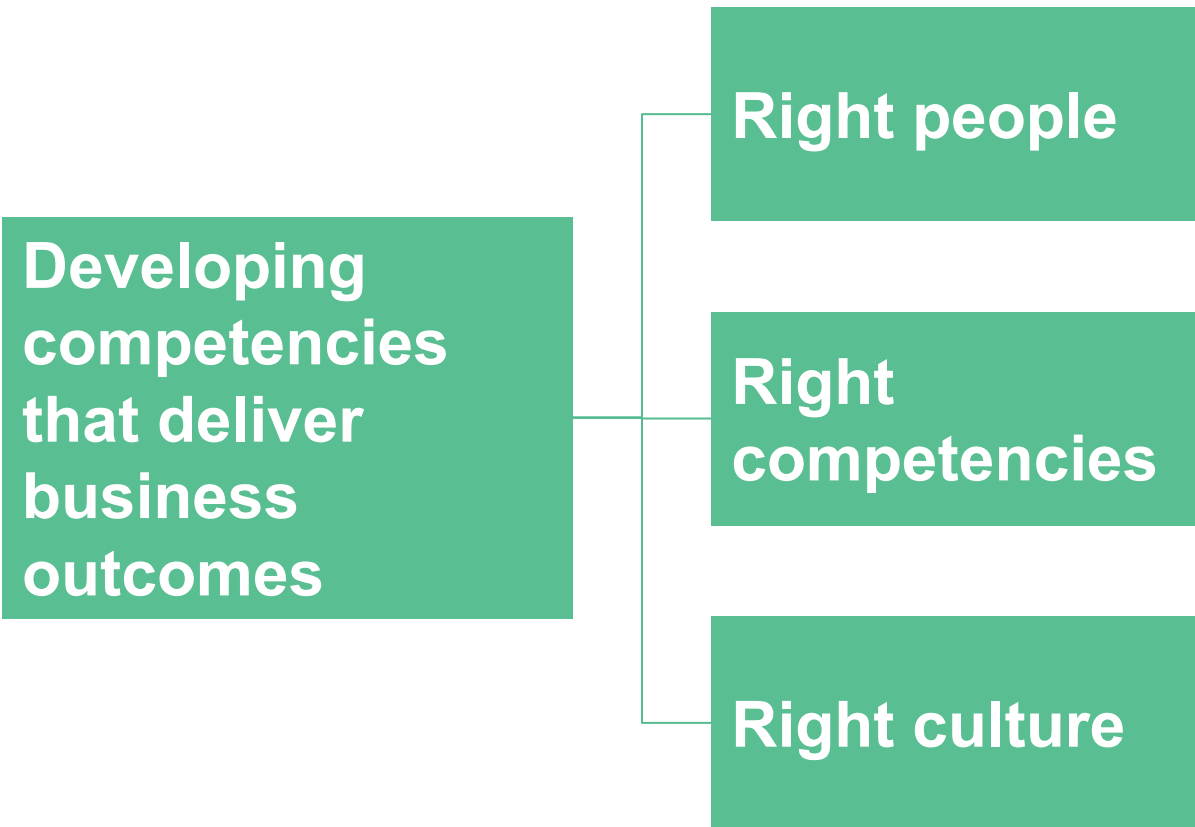
Sample business outcomes metrics

1. Performance
2. Safety
3. Motivation
4. Other soft-skills (e.g., collaboration)

Process safety case study



Developing competencies that deliver business outcomes requires the right people, right competencies, and right culture



Recommended approaches

- “G” measurement or IQ
 - Employee disposition
 - Learning goal orientation
-
- Competencies tie to KPIs
 - Functional job analysis (FJA)
 - Knowledge, skills, abilities, and other characteristics (KSAO)
-
- Training climate
 - Error management

Functional job analysis example

Results of Reservoir Engineering Job Analysis

Technical Competencies

Non Technical Competencies

- 1 Identify critical competencies
- 2 Rate importance, frequency and attainment
- 3 Assess criticality and attainment
- 4 Ensure opportunities address correct competencies

Maximizing competency development includes have the right training climate and appropriate pre- and post-training activities

Pre-training

- Management must be accountable for and incentivized to develop competencies
- Training provided at an appropriate time
- Expectation setting on desired performance after training

Training

Post-training

- Management follow-up on key learnings
- “Distributed” learning opportunities or opportunities to apply what was learned

What we can learn from other industries: Google and Amazon



**Developing
competencies
that deliver
business
outcomes**

Right people

**Right
competencies**

Right culture

Details

- Robust assessment of content knowledge, personality, and ability pre-hire
- Big data approaches to competency needs assessment, gap closure and development
- Competency knowledge applied to internal teams
- “Failing upwards”
- In a dynamic industry, experience is not as important as the ability to think

Which of these approaches can be applied to your industry/company?

Implementing the practices presented can help address capital project personnel challenges (1/2)

Job description for a Mechanical Craft Labor Supervisor



localjobnetwork.com
Live here. Work here.™

Find a Job Resources Employers Login/Register

Home / Find a Job / Craft Labor Supervisor - Mechanical

Craft Labor Supervisor - Mechanical

Share [in](#) [t](#) [f](#) [G+](#)

Posted 3 months ago

Apply Now

Email Job

Apply Now

Email Job

Required Education
Bachelor's Degree

Job Description

Requisition Number 17-0441
Post Date 5/19/2017
Title Craft Labor Supervisor - Mechanical
City Various USA
Country United States
Description [REDACTED] helps power the world, building industries and creating solutions to some of our customers' most complex energy problems. With offices in more than 50 countries, we are a global leader in providing field service solutions to the power generation, oil & gas, nuclear, wind, and power & water segments.

<https://www.localjobnetwork.com/job/detail/25146358/Craft-Labor-Supervisor-Mechanical> 8/9/2017

Competencies and KSAOs required by hiring company

Competencies

- Planning and managing timely execution
- Supervising, checking, and monitoring crew activities
- Driving communication with site mgmt.
- Training, coaching, and mentoring craft labor
- Critical thinking
- Capability to implement risk mgmt. techniques

KSAOs

- Bachelors degree
- 10+ years of experience
- Experience assembling, installing, and maintaining large frame turbines

How many candidates meet all of these qualifications?

Implementing the practices presented can help address capital project personnel challenges (2/2)

Job description for a Mechanical Craft Labor Supervisor

The screenshot shows a job posting on the localjobnetwork.com website. The job title is "Craft Labor Supervisor - Mechanical". The posting is dated "5/19/2017" and has a requisition number "17-0441". The job is located in "Various USA" and is a "Regular, Full Time" position. The job description mentions that the company helps power the world, building industries and creating solutions to some of our customers' most complex energy problems. With offices in more than 50 countries, we are a global leader in providing field service solutions to the power generation, oil & gas, nuclear, wind, and power & water segments.

localjobnetwork.com
Live here. Work here.™

Find a Job Resources Employers Login/Register

Home / Find a Job / Craft Labor Supervisor - Mechanical

Craft Labor Supervisor - Mechanical

Job Summary

Company

Posted 3 months ago

Share in f G+

Apply Now

Email Job

Start Date
As soon as possible

Employment Term and Type
Regular, Full Time

Required Education
Bachelor's Degree

Job Description

Requisition Number 17-0441
Post Date 5/19/2017
Title Craft Labor Supervisor - Mechanical
City Various USA
Country United States
Description) helps power the world, building industries and creating solutions to some of our customers' most complex energy problems. With offices in more than 50 countries, we are a global leader in providing field service solutions to the power generation, oil & gas, nuclear, wind, and power & water segments.

https://www.localjobnetwork.com/job/detail/25146358/Craft-Labor-Supervisor-Mechanical 8/9/2017

Potential improvements

Right people

- Expand candidate pool to others with relevant experience
- Evaluate IQ, disposition, and learning goal orientation

Right competencies

- Determine which competencies are most critical
- Assess what competencies can reasonably be expected pre-hire vs. those that need to be developed

Right culture

- Ensure the organization is set-up to foster competency development
- Encourage appropriate risk-taking

Learnings from the O&G downturn: A different approach is critical

Challenges facing the industry

- Risk of losing mid- and high-skilled workers to other sectors is high
- 55% of laid off workers intend to leave O&G
- Hiring new workers has safety and reliability implications that need to be managed

Implications for the future

- The relatively weak industry brand must be addressed to effectively compete in the future
- More sophisticated approaches to measuring KSAOs will result in faster, lower-cost onboarding of new workers
- For safety and reliability metrics to not be affected by rapid hiring processes, advances in personnel selection and measurement of ability, safety propensity, learning orientations and cross-cultural competencies need to be integrated
- Examining and measuring how energy work is changing and what competencies are necessary is essential and will contribute to determining competitive advantage in an upturn

Closing

Common challenges

- Training and development does not get appropriate management attention
- Competency development is not tied to business outcomes
- Employee competency gaps oftentimes not systematically assessed
- The right employees aren't getting the right training

What I'd challenge you to do

- Get involved!
- Require linkage between training, competency development and business outcomes
- Measure and assess competencies with the same rigor as technical specifications and procedures
- Understand skill gaps across your team and within individuals