HUMAN PERFORMANCE

HOP, HUMAN ERROR, HUMAN FACTORS – A BRIEF OVERVIEW

MID-ATLANTIC CONSTRUCTION SAFETY CONFERENCE 2018

To learn more about the great debate at ASSE 2017 featuring Scott Geller and Todd Conklin:

https://www.youtube.com/watch?v=43u61TQpOxQ&feature=youtu.be

To learn about Aubrey Daniels International's response to BBS vs HOP:

https://www.aubreydaniels.com/sites/default/files/HOP%20a%20New%20Approach_v2_0.pdf

RECOGNIZED AUTHORS

Behind Human Error, Safety Differently, Drift into Failure, Just Culture

Sidney Dekker – Professor at Griffith University in Australia

Human Error, Managing the Risks of Organizational Accidents, The Human Contribution

James Reason – Professor of Psychology, University of Manchester

Pre-Accident Investigations

Todd Conklin – Retired Senior Advisor for Organizational & Safety Culture Los Alamos National Laboratory

OVERARCHING IDEA

Human Performance - an operating philosophy which acknowledges that humans are **error prone.**

- It helps us understand how humans perform and thereby how we can build systems that are **more error tolerant** and **fail safely.**
- It empowers employees to contribute equally to the **safety & operational excellence** of the organization.

TRANSITIONING OUR VIEW OF SAFETY

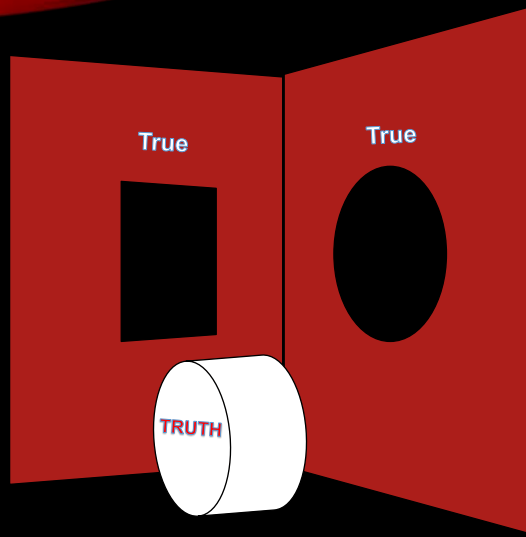
Traditional View

1. Human error is a CAUSE of failure in an otherwise good system.
2. The failure was based on bad judgement, wrong decision, laziness, not paying attention.
3. Failure generates INDIGNATION
4. Complex systems are safe assuming rules are followed.
5. To make it safer, automate, more supervision, stringent SOP, make it a two person job, etc.

Emerging View

1. Human error is a SYMPTOM of an unreliable system.
2. The decision made sense to the person at the time of the failure given the circumstances.
3. Failure generates CURIOSITY
4. Complex systems are not safe & require dynamic adjustment.
5. To make it safer, have people practice safety continually through all levels of the organization.

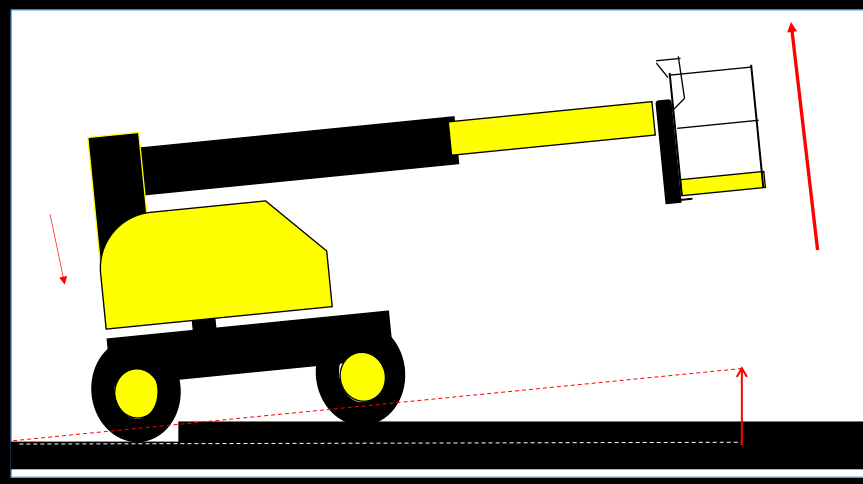
PERSPECTIVE MAKES A DIFFERENCE



"This transition requires a break from long-standing traditions, common beliefs and some natural impulses, including folk notions about human behavior as well as cognitive biases that lead us to misunderstand why people perform as they do. While transitioning to this new perspective can take some work and feel unnatural at first, it might just provide new and much needed tools for addressing the enduring challenge of human error."

- Phillip Ragain

2016 DOUBLE FATALITY ON AN AERIAL LIFT



2016 DOUBLE FATALITY ON AN AERIAL LIFT

CHEST TAP DOUBLE CHECK

HUMAN PERFORMANCE

Understanding Human Performance through 5 general principles:

1. Even the best of us make mistakes.
2. Individual behavior is influenced by organizational processes & values.
3. Error-likely situations are predictable, manageable, and preventable.
4. Incidents can be avoided by understanding mistakes then taking action.
5. Leadership response matters.

1. EVEN THE BEST OF US MAKE MISTAKES

Errors happen more frequently than we would like to admit, just about all the time.

- Many times without consequence.
- Sometimes with significant injuries or damage.
- Sometimes without our knowledge – the brain works to fill in gaps and we make assumptions in error.

INDIVIDUAL INDUCED HUMAN ERROR

Include such factors as

- Lack of fitness or fatigue
- Impaired attention, distraction, boredom
- Complacency or poor decision making
- Lack of skills and knowledge
- Unsafe work habits

SYSTEM INDUCED HUMAN ERROR

System factors encompass :

- Lack of proper tools, materials, or equipment
- Poor ergonomics, layout, and environmental conditions
- Lack of communication, instruction, or procedures
- Workflow issues
- Culture that treats safety like any other priority

DANGEROUS ATTITUDES

- "I can do it , I'll get it done, no matter what it takes."
- "That can't happen to me."
- "Don't insult my intelligence."
- "What's the use in trying?"
- "Worked 30 years without an accident."
- "Nothing bad will happen, it's all good."
- "Keep going, we're almost there."

DANGEROUS CHARACTERISTICS

- Workers who haven't seen a serious accident and think it only happens on You Tube.
- Workers who let extreme anger, sadness, joy, etc distract them from their work.
- Workers who work through an injury or illness.
- Workers who don't want to be the center of attention – so they would never report a first-aid incident, a close call, or speak up.

2. INDIVIDUAL BEHAVIOR IS INFLUENCED BY ORGANIZATIONAL PROCESS AND VALUES

- CEOs talk about Stop Work Authority but …..
- Asking workers to try harder, work safer, care more, etc ….. Too many times safety messages are said as an afterthought to the message about meeting a deadline. All the person heard was get it done.
- Punishing workers for policy violations but only when they get hurt. The punishment alienates the worker, ask instead, how can it be done better?

3. ERROR-LIKELY SITUATIONS ARE PREDICTABLE, MANAGEABLE, AND PREVENTABLE

Experienced leaders know the habits of their people and the inherent challenges of the work.

If we can sit in a room like this and

- share war stories of mistakes that usually happen (predict)
- elaborate on the specific conditions (conditions can be managed)
- identify how we should have done it differently (preventable)

then we can sit in this same room and develop clear expectations and systems to prevent similar situations from causing an error.

4. INCIDENTS CAN BE AVOIDED BY UNDERSTANDING MISTAKES AND THEN TAKING ACTION

Avoid the trap of focusing solely on one root cause, the 5 whys, or linear accident theory. Look at the complexity of the situation.

Don't stop at the worker, instead understand the principle of Local Rationality and ask How did this make sense to the worker? Look at it from the worker's perspective in relation to the complexity that was happening at the time of that decision.

Tell stories of how an incident happened and more importantly things to keep in mind. Engage workers on how to reduce operational complexity instead of piling on more rules.

5. LEADERSHIP RESPONSE MATTERS

Leadership influences perception of an organization's culture and values when they respond to an event:

- Genuinely care about the person, ask How are you/she/he, doing?
- Don't guess, ask what factors led up to the event.
- Ask drill down questions. For example if the worker shared that s/he used the wrong tool, ask how could we ensure the right tools are used?
- Seek out the complexity of the situation and ask where else could this happen.
- Stay focused on preventing reoccurrence, not in placing blame.

Remember to thank the person for participating in the review.

HP SUMMARY

The key to improving human performance is three fold:

1. Have clearly communicated expectations with well designed systems in place to make the process error resistant.
2. Design the system to fail safely and make recovery from an error possible.
3. Equip people to see the complexity, have the depth of understanding, and the self-discipline to make the right decision each and every time even if it makes their life harder.

Joseph Xavier 443-910-7874 cell/text jxavier@hpx-factor.com