SAFESTART HUMAN FACTORS





Orlando, FL

February 8 & 9

SESSION TITLE

Session Presenter

ROB FISHER AND FIT

- Over 30 yrs. of consulting experience in performance improvement
- FIT Cumulative over 150 yrs. of industrial experience
- Specialties in:
 - Human & Organizational Performance (HOP) Deployment & Integration
 - Learning from success & failure / Root Cause / Catastrophic Failure Analysis / Incidents and Near Misses
 - Procedure / Programs / Process Excellence

• Conducted over 50 successful integration strategies in:

- Manufacturing / Heavy Industry / Chemical / Metals / Oil & Gas
- Utilities / Generation / Transmission / Distribution
- Construction / Mining / Refining / Engineering
- Department of Energy / Research
- Recognized contributor to reduction of fatalities and serious injuries in high-risk industries
- Author of "Understanding Mental Models"



Professional Background Operator Operations Supervisor Maintenance Management Technical Manager Chemistry Management Executive Mentor and Coach Author

Military Experience

Chemist / Operator Periscope Photographer Special Operations Liaison Radiological Manager

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I was this guy....

And Remember...

- Over 300 successful deployments
- In 40 countries and 10 languages
- Over 350,000 students



BUT... WAS I EVER WRONG!

Ya Caint Teach HOP Va Caint Teach HOP unless You are lookin

them in the eye...

HUMANS teach HP-

not computers!

Objectives

Talk about WHAT HAS ACTUALLY CHANGED

Provide some examples of WHAT HASN'T CHANGED Provide insights on ways to DO HOP RIGHT IN OUR NEW WORKLD Have an interactive discussion on WHERE TO GO FROM HERE



Leaders still have to know and DO HOP!







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The way leaders exhibit their knowledge and behavior changes has changed



The way and places that leaders engage has changed



The Need for Systems Thinking



A bad system will beat a good person every time.

W. Edwards Deming











Most problems in industry are related to Human Error...

STIL!



An interdependent system where individuals being aware of and managing their personality tendencies interact with people, programs, processes, work environment, organization and equipment





Do you know **SOMEONE**

LIKE THE

WIND

COOL &

CALM AS

WATER

who is





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INFORMATION ORIENTED – NEEDS TIME TO PROCESS

Guiding Principles

- Recognition that **people are fallible** and *even the best will make mistakes*
- Organizational values influence individual behaviors and the values of the smaller organization have more impact than the values of the larger organization
- People need to be aware of and manage their personality tendencies in order to see and manage risk better
- Error-likely situation (traps) are predictable and preventable but ONLY if you recognize them!



- Events can be avoided by understanding causes and applying lessons learned
- Performance is based on awareness, reinforcement, and self-motivation Leaders' response to failure (and success) matters!

Some Basic Understandings

90% of events are caused by something **OTHER THAN JUST** the individual*

95% of people react very similarly (physiologically) to the same stimuli



People do what they do, at the time that they do it, for reasons that make sense to them at the time**

HOP is **NOT** common sense!



Work Environment

Organization

A bad system

ery time

Processes

will beat a good person

* - Derived from "Out of the Crisis", W.E. Deming, 1996

** - Derived from "The Field Guide to Understanding Human Error", Sidney Dekker, 2013

Science-Based Definitions

Error An action or inaction that unintentionally: • Results in an undesirable or unwanted condition OR • Leads a task or system out of limits OR • Deviates from a rule, standard, or expectation Event (or incident) The undesirable result of an error, a set of errors or a set of conditions	We MUST learn to separate the ERRORS from the EVENT	If LEADERS don't know the definition of Error
Deviation Not strictly complying with a rule, standard or expectation	ERRORS and VIOLATIONS	it is hard to get the workforce to believe you want to help prevent them.
Violation An action or inaction that intentionally deviates from a rule, standard, or expectation	are DIFFERENT THINGS	
Active Error An action or inaction that results in immediate consequence	We MUST pay ATTENTION	
Latent Error An action or inaction that results in consequences that are delayed or create latent conditions	to ALL TYPES of ERRORS	

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How Bad Things Happen



How Bad Things Happen – With References



How Bad Things Happen - Application

~15%		Outside organizational control (natural phenomenon, isolated equipment failure)	<10%
~85% Bad	90%	Error – an action or inaction that unintentionally : 1. Results in an undesirable or unwanted condition or	lsolated erro systemic
Outcome		 Leads a task or system outside of limits or Deviates from (does not strictly comply with) a rule, standard or expectation 	rs with no drivers
	10%	Violation – An action or inaction that intentionally deviates from a rule, standard, or expectation	lsolated Violations

There are two major reasons companies identify fewer nearmisses than they really have...

1. The leaders haven't changed their understanding and language around errors and violations, and

2. The leaders revert to old language and behaviors when something bad happens (or almost happens) Oh... and there is one more in our new world...

The people that are requesting, demanding, reviewing, categorizing, analyzing, and making recommendations for improvements may be sitting at home!

The Swiss Cheese Model*



How has communication changed with the people who are supposed to be helping with these?

*Designed after Dr. James Reason's Swiss Cheese Model – Managing the Risks of Organizational Accidents

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Performance Modes

Performance Modes Relate to... This **PERSON** on This **TASK** at This **TASK** at

Performance Mode	Characteristics	Error Rate
Skill Based	Habitual tasks that need low to no conscious thought and you don't have to think (> 50 times and <7 steps)	HABITS 1:1000
Rule Based	There is a rule and the person knows the rule exists but does not have to KNOW the rule (we cannot know all the rules)	PROCESS 1:100
Knowledge Based	The person does not know what they don't know – they THINK they know but have some doubt	GAPS 1:2 - 1:10



Why Is It Important For Workers to Understand?

- Avoids you having to work in the face of uncertainty
- Makes you aware of probable failure rate
- Allows you to apply the right tool for the situation

Applying the right tool, the right way in the right situation reduces error rates by a factor of **10!***

* Using the right tool, the right way in the right performance mode reduces your error rate by a factor of 10. Derived from James Reasons creation of GEMS based on Rasmussen's research.

Why Is It Important For Management to understand?

- When designing or preparing for tasks consider whether the task may put people in knowledge-based mode
 - You can reinforce and expect the use of specific tools for jobs based on the performance modes
 - You are aware of the *risks* associated with performance in each of the modes
- When observing tasks knowing the performance mode "*frames*" the observation and allows for more precise assessment against expectations

When something does happen:

 These concepts help you understand what the characteristics of the error were – so you can apply *effective corrective actions*

What are Traps, Triggers and Tools? Traps

• Conditions or situations that people may fall into without recognizing it and cause and error, event or incident

Triggers

- observable *actions* or *reactions*
- a recognized thought or individual *perception* or
- A "gut-feeling" that something isn't right.

Tools

• Methods used to recognize and avoid traps and prevent errors, events and incidents

Top 10 Error Traps

- Stress
- Multi-tasking/High workload
- Time pressure
- Poor communications
- Vague/poor written guidance
- Overconfidence
- Infrequent or first-time task
- Distractions
- First working day following time off > 4 days
- The end of work shift or extended hours





Put us in or keep us in Knowledge Based Mode



Interact With Other Traps

WITH Model

General influences on task performance related to workplace, organizational and cultural conditions

Unique mental, physical and emotional capabilities of an individual related to a specific task





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Key Error Reduction Tools



Real Drift....



Task Start

Task End



Task Start

Task End

Aren't they BOTH deviations?

Deviation Analysis



2 - J. Reason, "Human Error"; "Managing the Risks of Organizational Accidents"

Derived from "Managing the Risks of Organizational Accidents", James Reason, 1994, pp 209

Deviation Analysis



Advantages of our New HOP World

- HOP Concepts and science haven't changed only the delivery
- Leader involvement via electronics
- Speed, Consistency and Verification
- We can do 100 or 1,000 instead of 15 20
 - Shorter burst accessibility
 - Instant availability to refreshers and JIT 24/7
- Most people have become used to technological solutions the time is right for the shift
- Sell this as an opportunity not a fix to a problem

Some Specifics

- Senior Leaders & Managers can be educated, tested, and held accountable (for their knowledge, language and behaviors)
- People still get the science, but not tainted (10 HOP coordinators one set of concepts)
- Technology solutions ready and available (illumitask Ready, FIT Online, etc.)

What Can YOU do?

• Start looking at an using what's

already out there

- Talk to the people
- Get the leaders involved
- Use the technology available
- Network!

I AM this guy....





We need to be able to

provide the right

science and practical

application under the

right conditions to still

help people

DO HOP RIGHT

Thank You!

Follow us! Linked in

Rob Fisher



www.improvewithfit.com

Questions? Additional content available at: https://online.improvewithfit.com





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THANK YOU FOR ATTENDING!