

# Investigating Unplanned Events In A Fraction Of The Time Currently Spent (Including Near Misses)



## **Norman Ritchie, vPSI Group, LLC Houston, Texas**

Norman Ritchie was educated as a Mechanical Engineer at the University of Glasgow in Scotland. He has 35 years of experience of project and risk management, largely in the oil and gas industry.

As a Director of vPSI group, LLC, which he co-founded in 2003, Ritchie provides consulting and training in performance measurement and improvement, principally in the areas of risk, loss prevention, safety, human performance, and organizational learning.

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## **Rick Theriau, vPSI Canada Ltd Calgary, Alberta**

Rick recently retired from Halliburton Group Canada after 32 years of leadership and engagement with each of the Canadian product service lines and specialized within service quality improvement and efficiency while leading the continuous improvement efforts on health, safety, and environmental initiatives.

He believes in giving back to the energy industry and has been assisting Energy Safety Canada, Enform and PITS since 2002 as a thought leader on many successful industry initiatives. These have included leading the teams that compiled IRP #7, IRP #8, Chemical classification, Contractor Management and currently is involved with the Fit for Duty initiative.

Rick is also the Canadian director of operations for RONEsoft software company and one of the founders. His professional education has included becoming a Petroleum Engineering Technologist, a Registered Environmental Manager and a Canadian Registered Safety Professional.

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## Objectives

3 key objectives of today's webinar:

- Incident investigation and incident analysis are not the same thing
- Incident analysis doesn't have to be complicated
- Corrective actions should be validated

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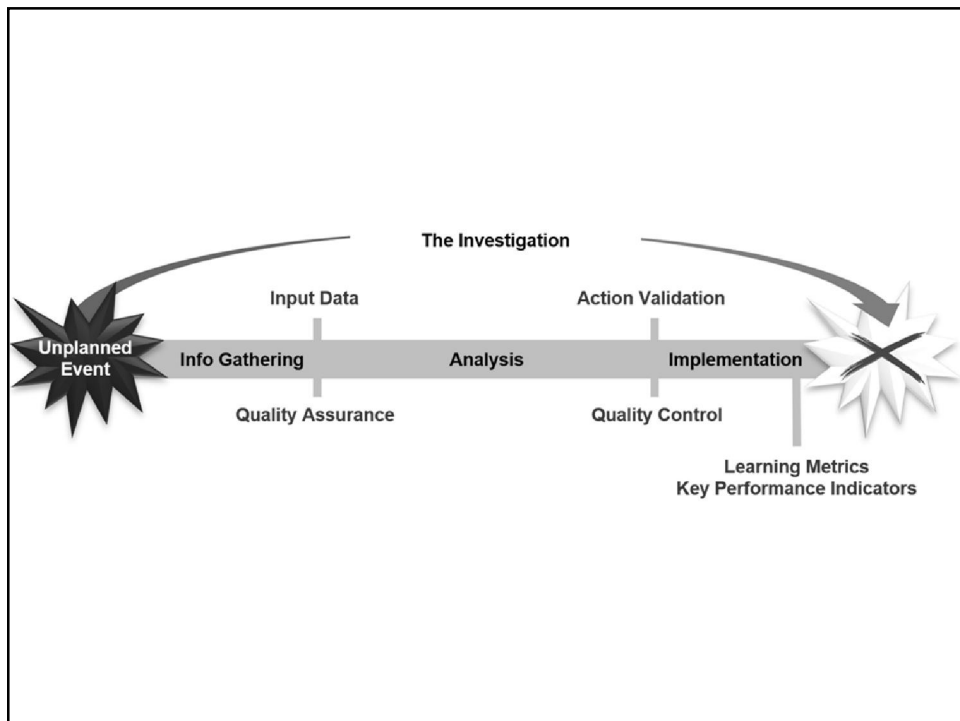
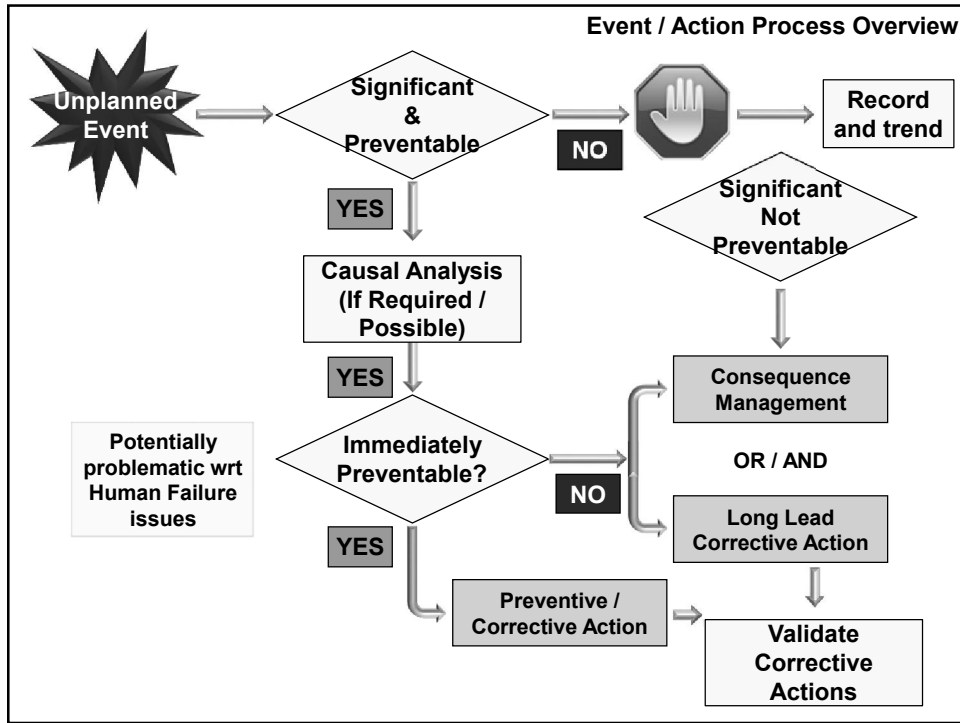
## Pragmatic Resource Investment

- **Should all Unplanned Events be fully investigated?**
- **Which Unplanned Events are worth investing resources in to prevent reoccurrence?**
- **Sustainable Organizational Learning requires systems / processes BUT there's a fine line between added value processes and bureaucracy.**

## Poll #1: Does your organization investigate all incidents?

Choices	Responses	Percentage of Total Responses
Yes	15	42%
No	9	25%
Depends on the consequences	12	33%

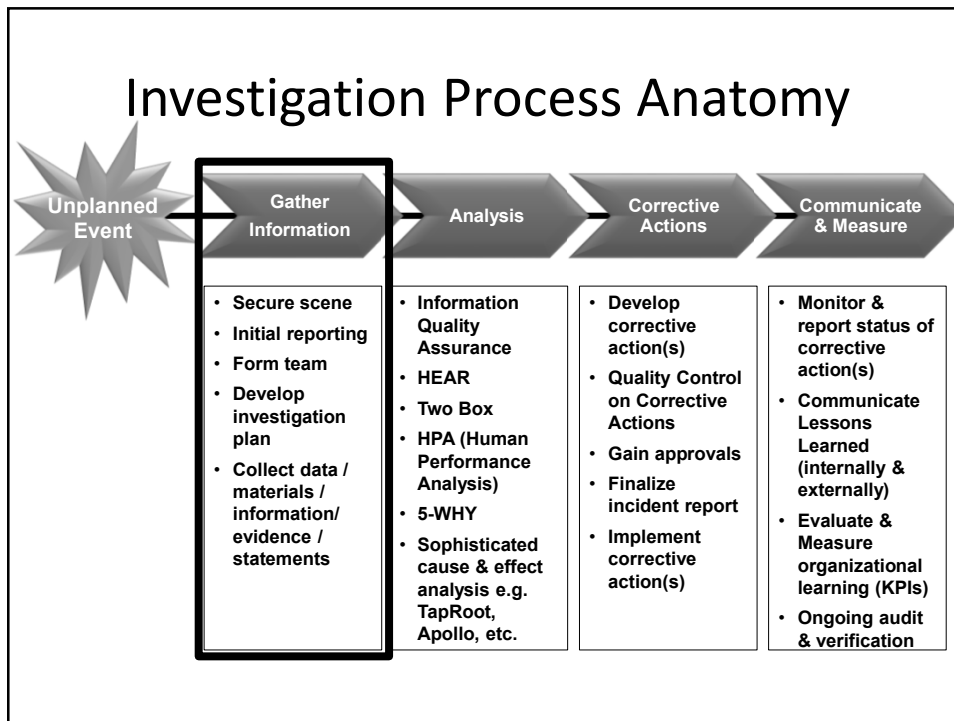
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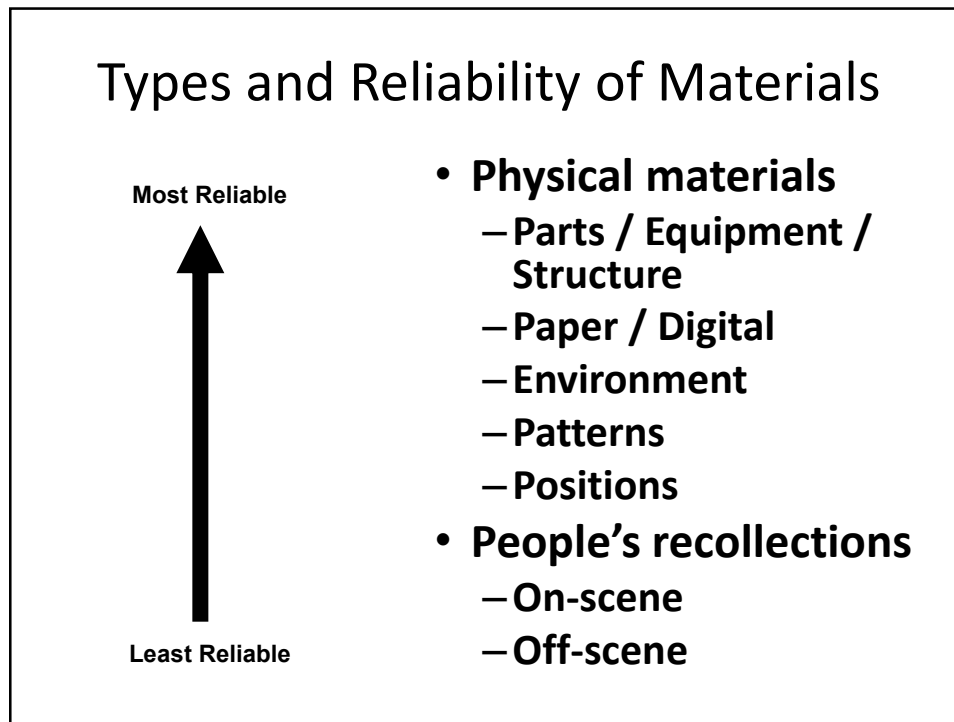
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Poll #2: Do you believe that there is a different skillset needed in order to Investigate versus Analyze Unplanned Events?

Choices	Responses	Percentage of Total Responses
No	2	6%
No but some events require SMEs	2	6%
Yes investigations have a process of their own	5	15%
Yes investigations and analysis are two different skills	24	73%

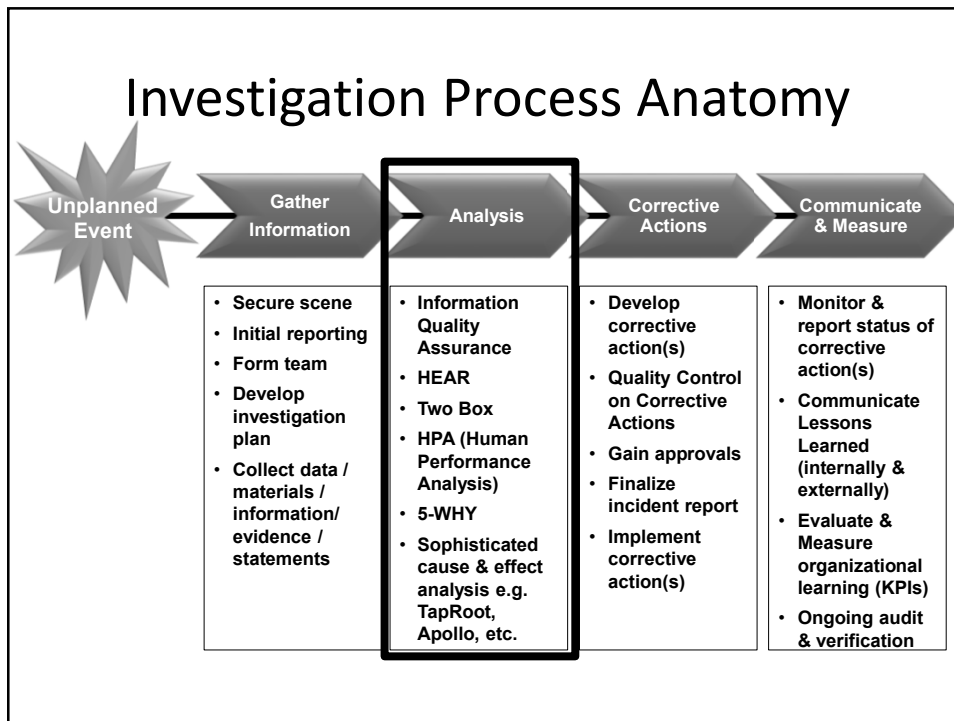
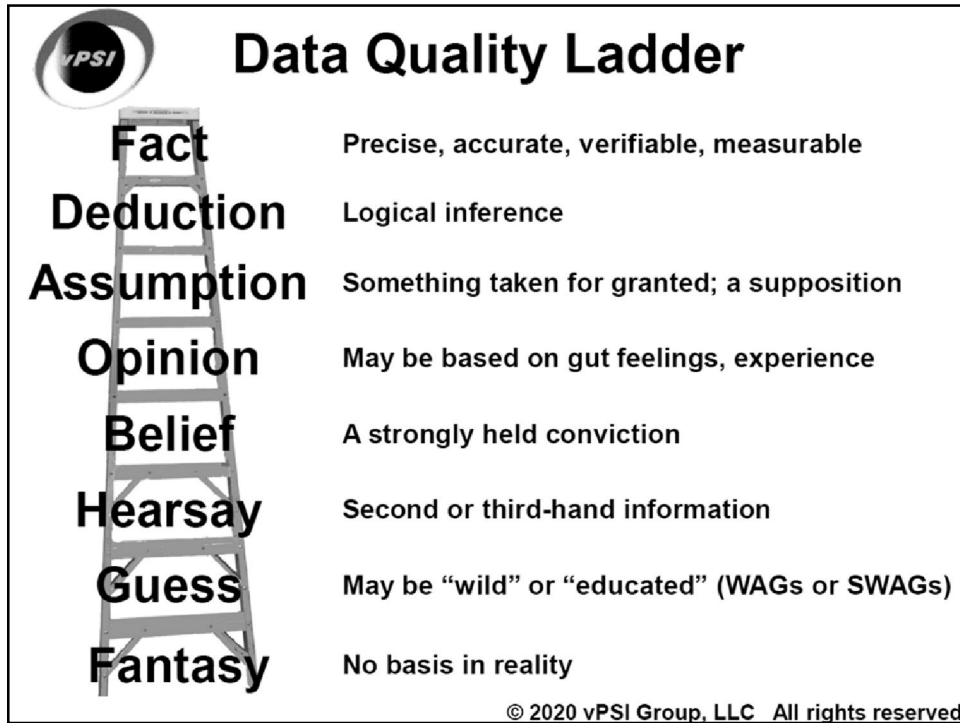


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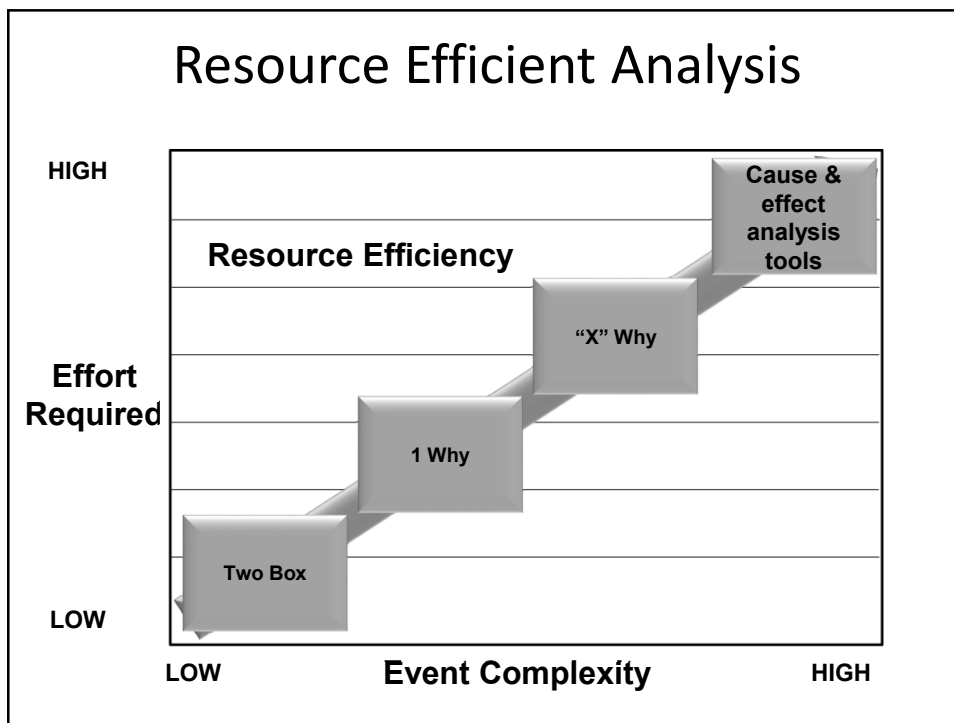
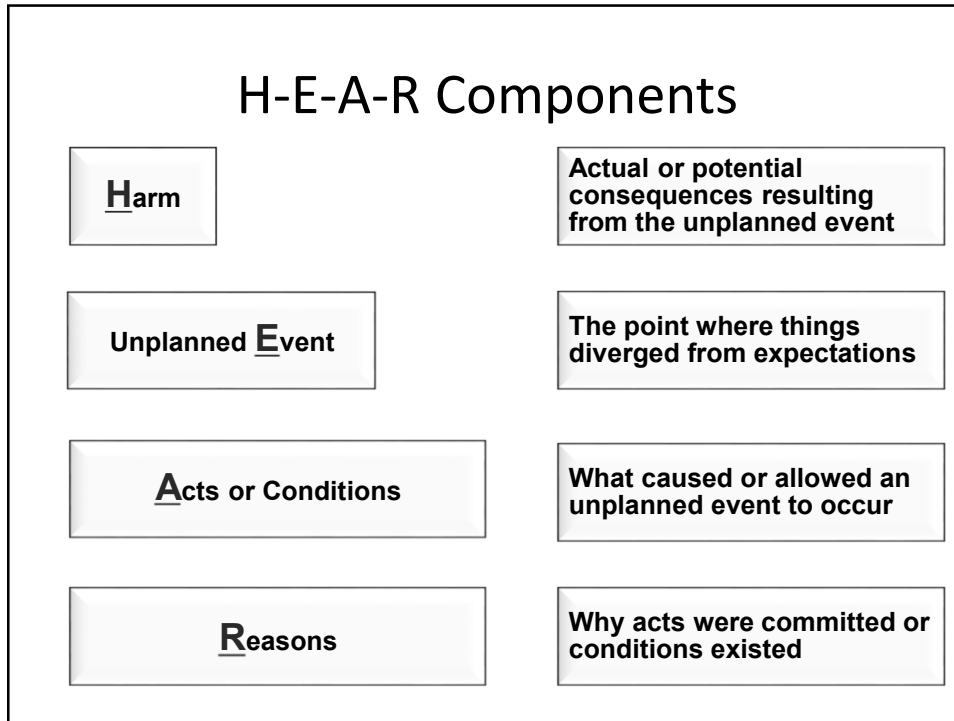


 <b>Sample Interview Questions</b>
<input type="checkbox"/> Please tell me what happened. <input type="checkbox"/> What were the initial conditions? <input type="checkbox"/> What were you doing just before the event? <input type="checkbox"/> What were you doing during the event? <input type="checkbox"/> What was the timing of the event? <input type="checkbox"/> How did you find out about the event? <input type="checkbox"/> How did you know what to do when you saw _____? <input type="checkbox"/> List and explain any equipment that was not working properly. <input type="checkbox"/> List and explain any equipment that was not labeled properly. <input type="checkbox"/> Timing of events <input type="checkbox"/> Location of event within the facility <input type="checkbox"/> Environmental conditions <input type="checkbox"/> Histories of similar incidents <input type="checkbox"/> Training and competence <input type="checkbox"/> Preparation of equipment <input type="checkbox"/> Use of JSAs, TBTs, permits, etc <input type="checkbox"/> Use and condition of equipment and PPE such as goggles, boots, fall protection, etc <input type="checkbox"/> Relative positions of actors / victim(s) <input type="checkbox"/> Anything moved / repositioned <input type="checkbox"/> Actions of other people <input type="checkbox"/> Emergency response activities <input type="checkbox"/> What other individuals were in the area? <input type="checkbox"/> Where were they? <input type="checkbox"/> What were they doing? <input type="checkbox"/> What were the environmental conditions? <input type="checkbox"/> What communications did you have with others in the area? <input type="checkbox"/> Any training or preparation issues? <input type="checkbox"/> Were there any JSAs, SOPs, permits, other management processes, etc. applicable to this work? <input type="checkbox"/> Were they referenced? <input type="checkbox"/> When was the last time you saw them?

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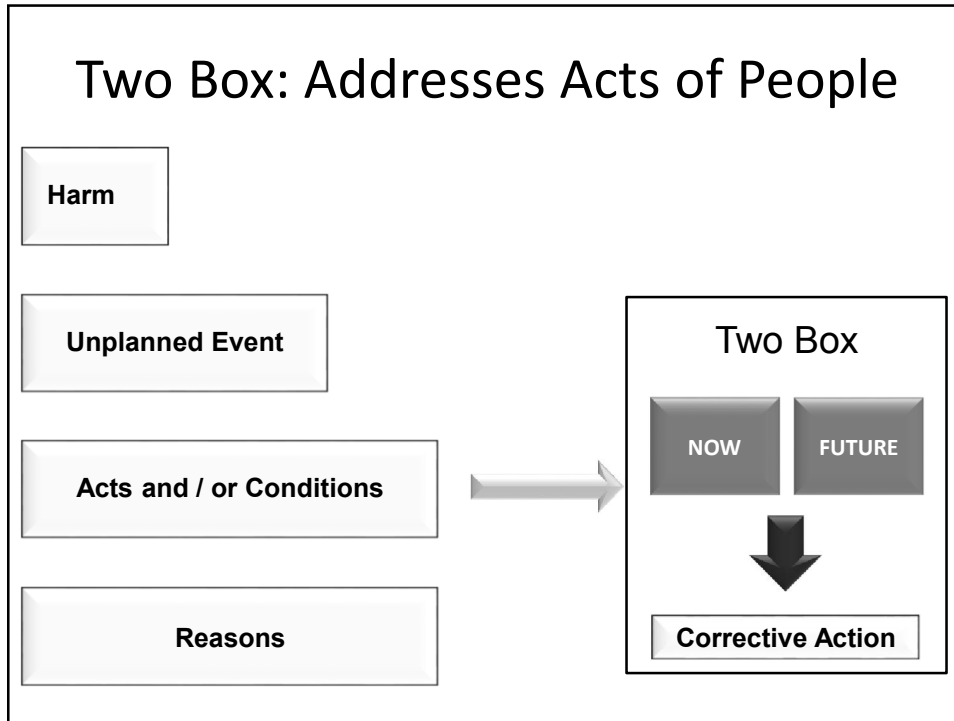


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## Case Study: Equipment Container

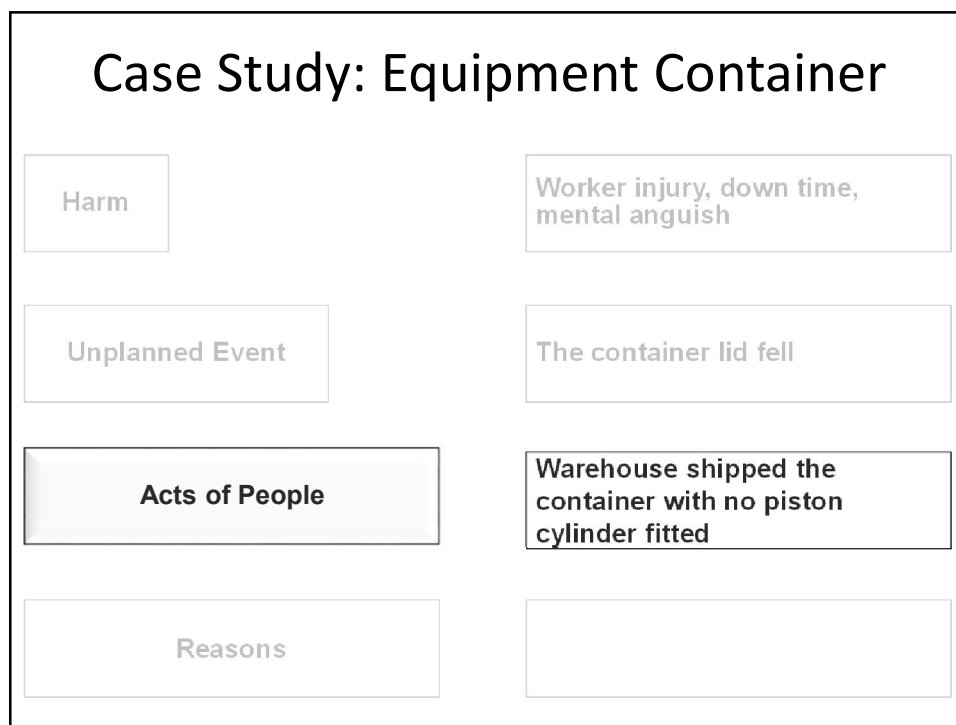
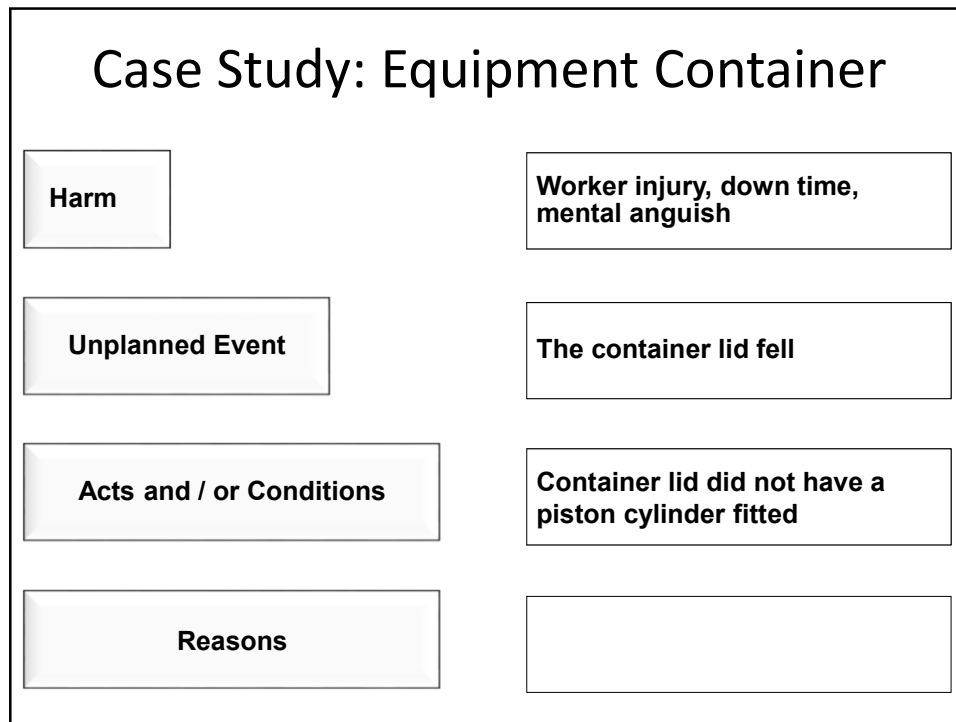


The design of an equipment transport container includes a piston cylinder to hold the lid open and a chain to keep it from opening too far.

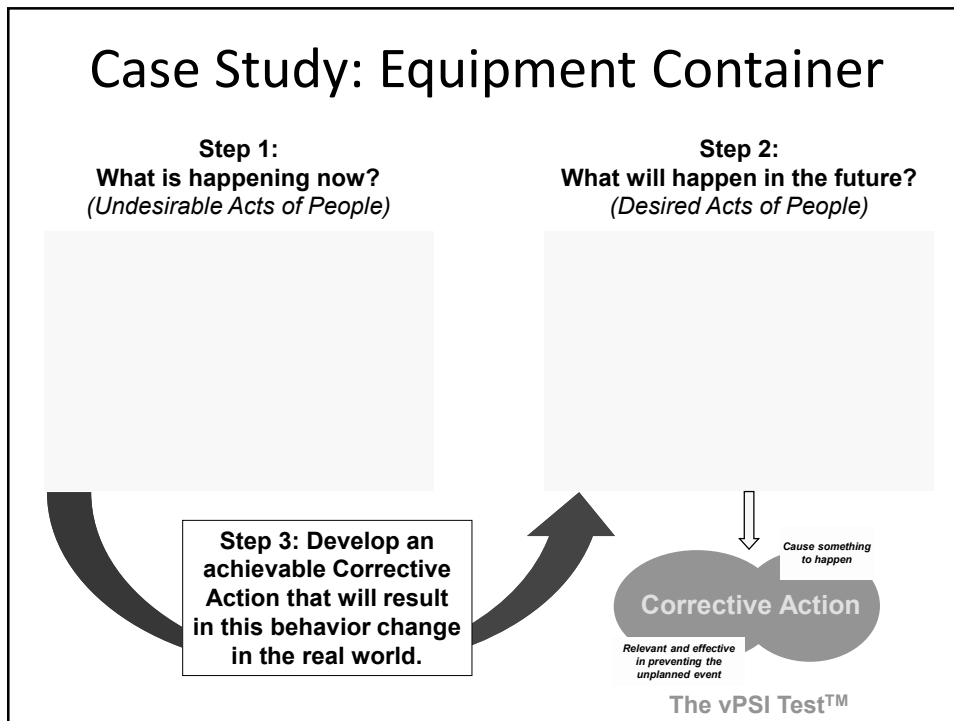
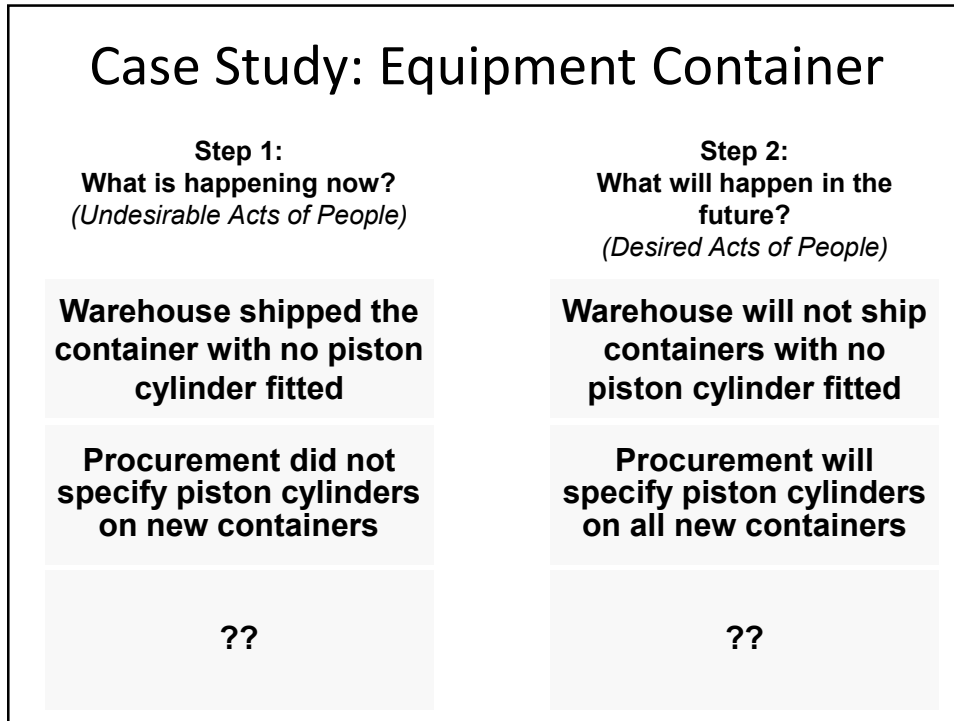
As workers were unloading a new container on site the chain twisted and the box lid did not open to a stable position. This particular container had no piston cylinder fitted, so when the lid was caught by a gust of wind it fell, landing on one of the worker's hands and amputating 3 of his fingers.

The warehouse team had not noticed that the container was missing a piston cylinder before shipping it out.

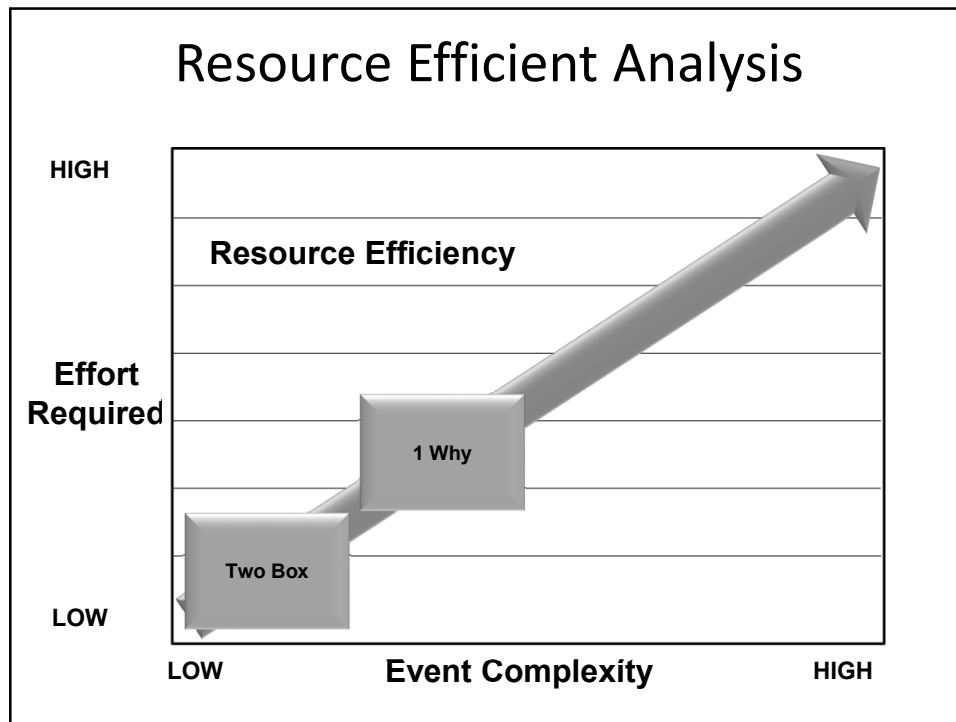
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## 1-Why (Human Performance\*)

<b>Slip</b>	-----	<b>Focus</b>
<b>Lapse</b>	-----	<b>Verify</b>
<b>Mistake</b>	-----	<b>Inform</b>
<b>Violation</b>	-----	<b>Motivate</b>

\*Source: Guidance on Investigating and Analysing Human and Organisational Factors Aspects of Incidents and Accidents, published by Energy Institute, London, May 2008

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## Case Study: Electrician on Ladder



An electrician was sent to repair a ceiling light fixture at a site 30 minutes away from the workshop. He took a 6-foot ladder with him but was surprised to discover the ceiling was 12 feet high. He stepped on the top rung of the ladder to try to reach the fixture, and his foot slipped off. He fell to the floor and broke his left ankle.

## Case Study: Electrician on Ladder

Harm

Broken ankle, down time, reputation damage

Unplanned Event

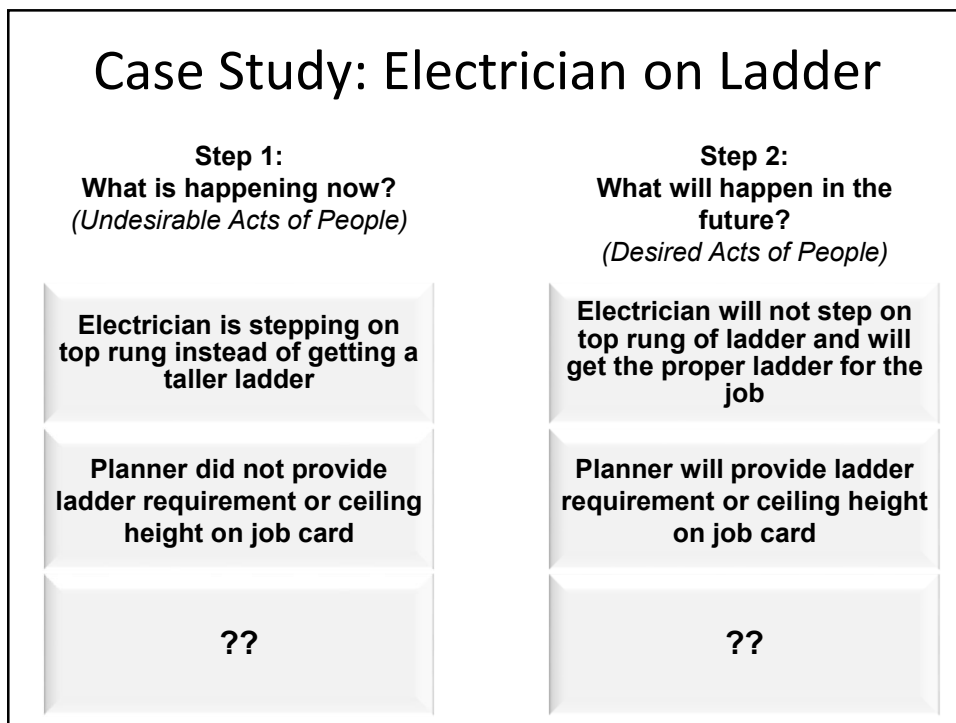
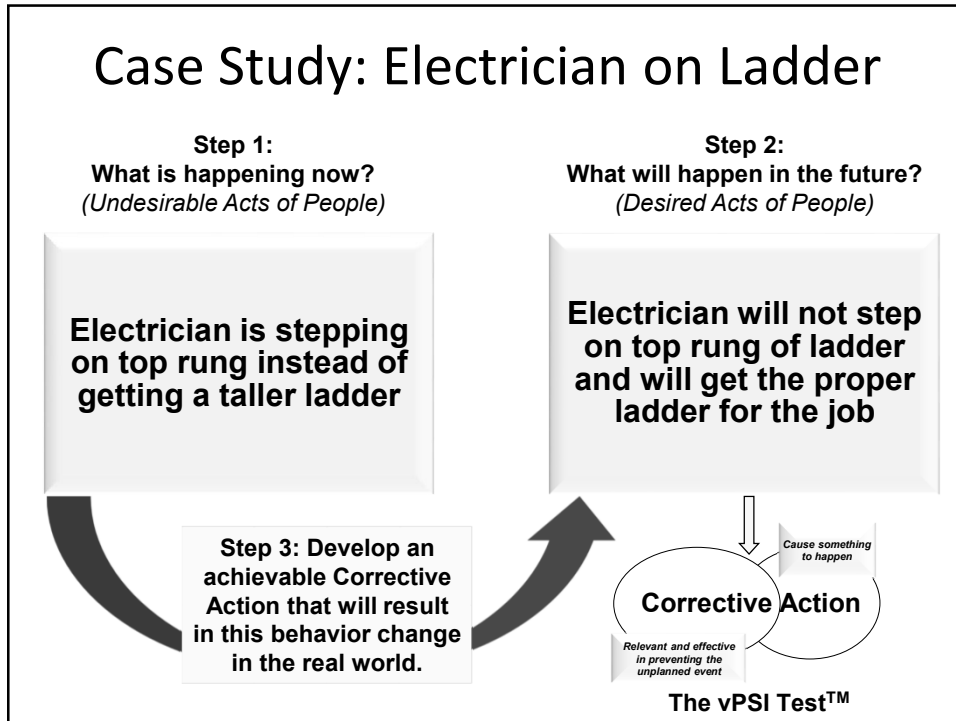
Electrician fell off ladder

Acts of People

Electrician stepped on top rung instead of getting a taller ladder

Reasons

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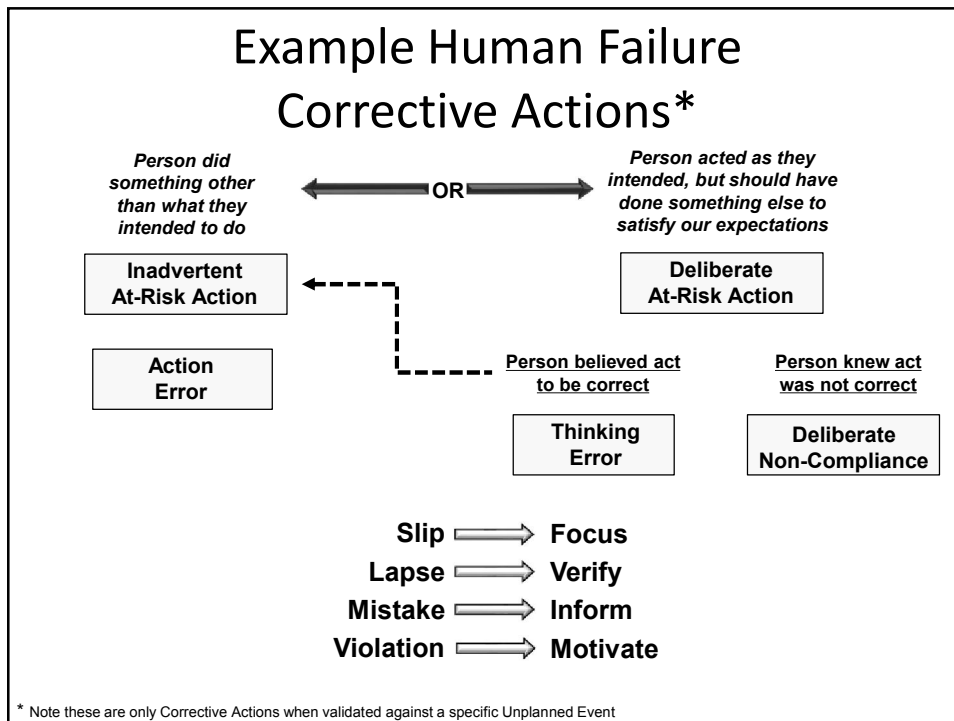
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Case Study: Electrician on Ladder				
People / Undesired Acts	Slip	Lapse	Mistake	Violation
Planner did not provide ladder requirement or ceiling height on job card	Planner was distracted while filling out online job card			
People / Desired Acts	Focus	Verify	Inform	Motivate
Planner will provide ladder requirement or ceiling height on job card	?			
Corrective Action				
Make ceiling height a required field in the online job order system so the job cannot be issued without it				

Case Study: Electrician on Ladder				
People / Undesired Acts	Slip	Lapse	Mistake	Violation
Electrician stepped on the top rung of the ladder instead of getting a taller ladder			Electrician took the wrong ladder when he left the shop	
People / Desired Acts	Focus	Verify	Inform	Motivate
Electrician will not step on the top rung of the ladder			?	
Corrective Action				
Provide ceiling height information on the job order				

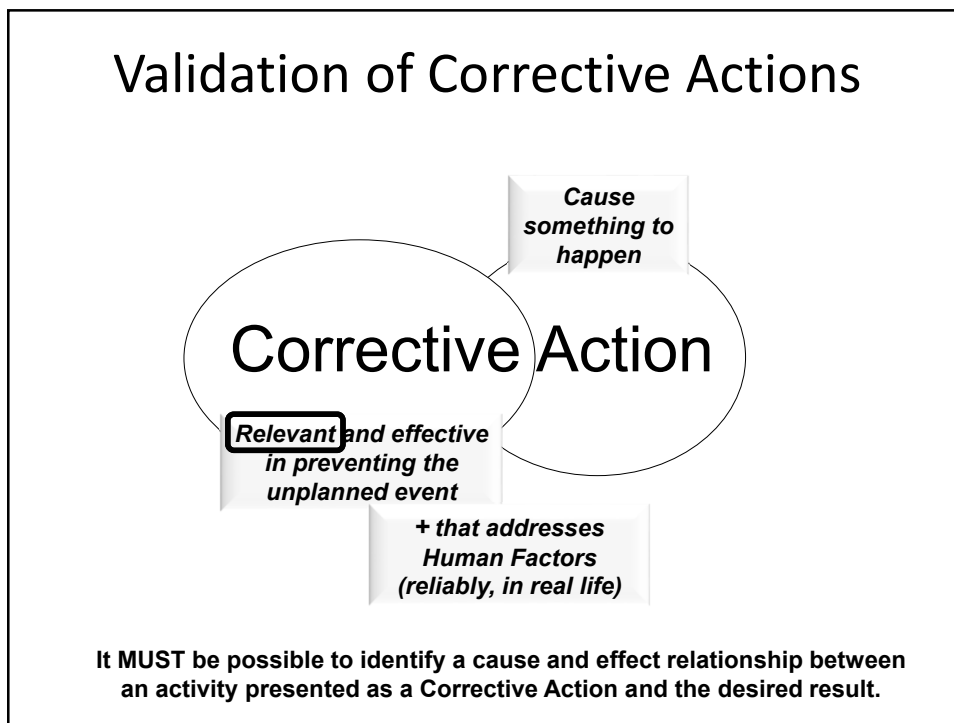
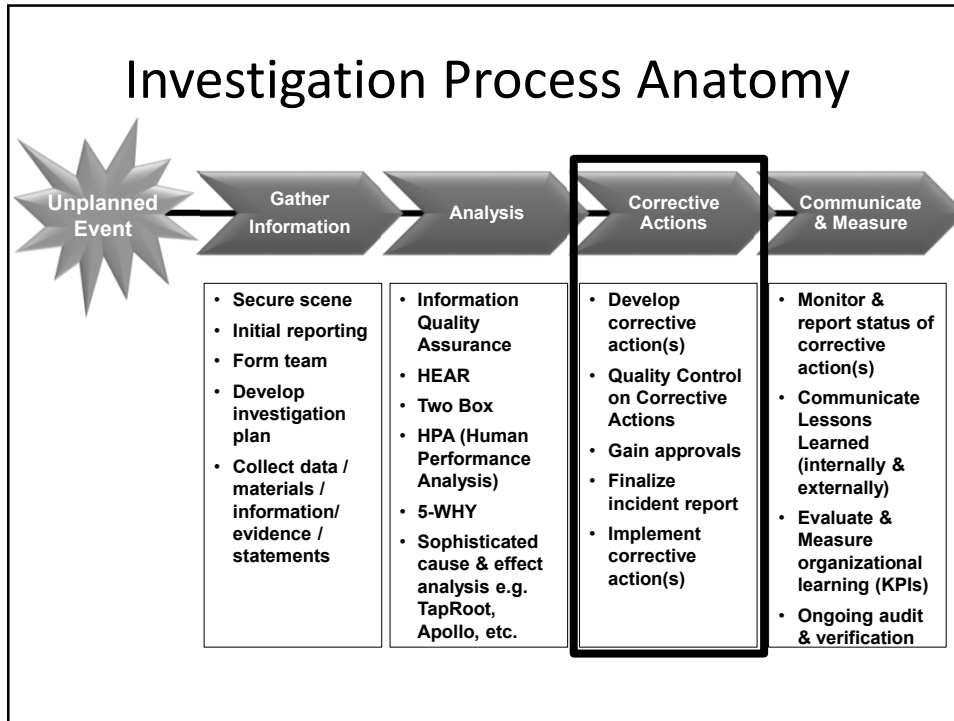
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Case Study: Electrician on Ladder				
People / Undesired Acts	Slip	Lapse	Mistake	Violation
Electrician stepped on the top rung of the ladder instead of getting a taller ladder				Electrician did not follow ladder policy
People / Desired Acts	Focus	Verify	Inform	Motivate
Electrician will not step on the top rung of the ladder				?
Corrective Action				
?				

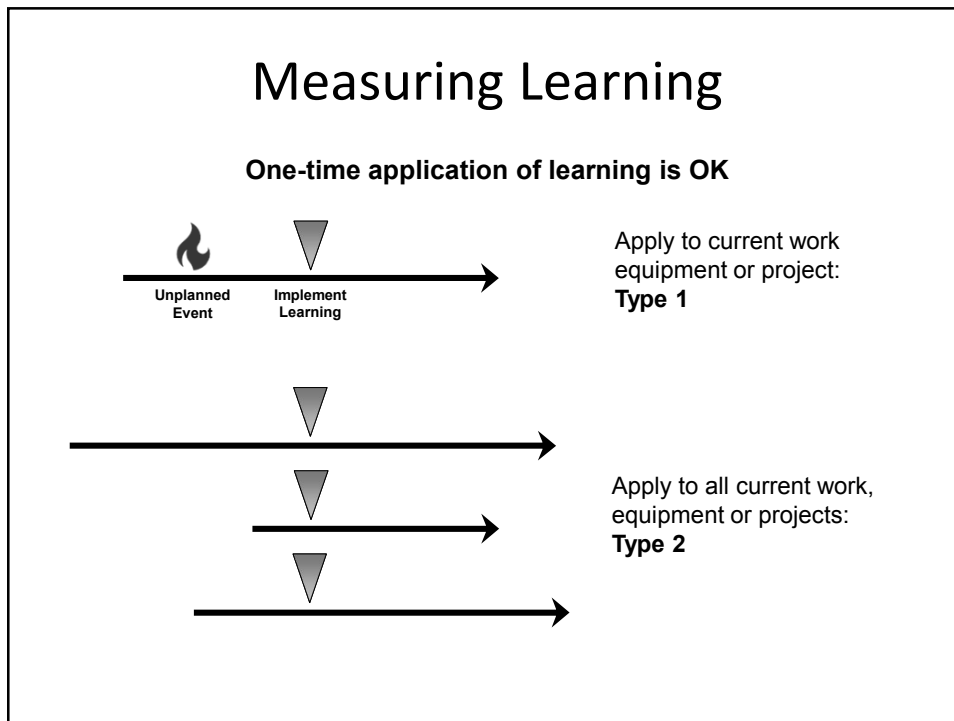
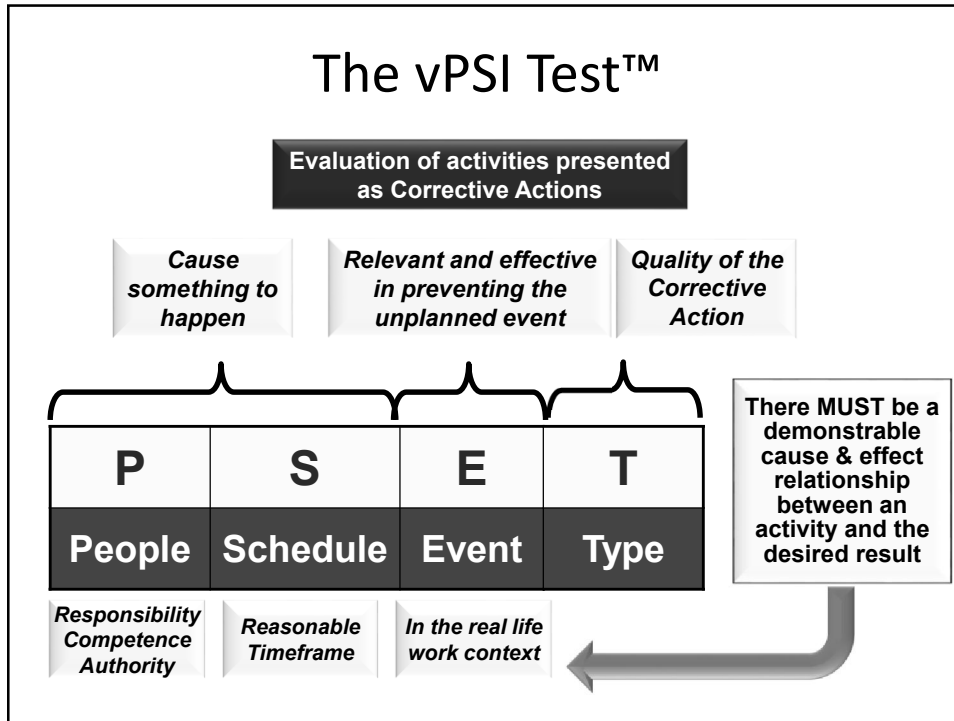




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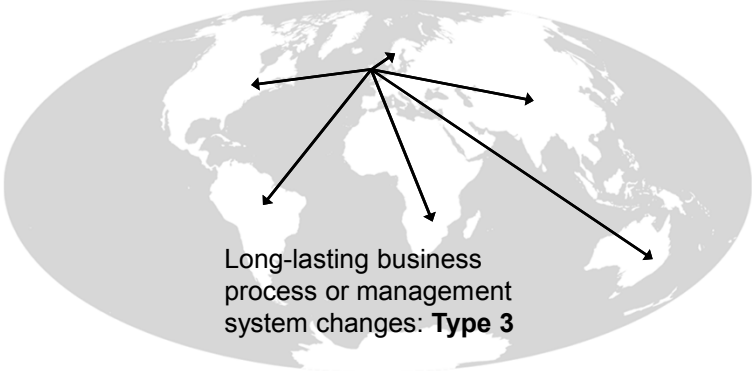
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## Measuring Learning

**Objective: Encourage application of learnings as broadly and permanently as applicable and practicable**



Long-lasting business process or management system changes: **Type 3**

**This is organizational learning**

**Poll #3: Has your C-Suite asked you for leading indicators in their regular statistics results?**

Choices	Responses	Percentage of Total Responses
No	4	17%
Yes but want more tangible measurements	6	25%
Yes but do not understand what they are asking	2	8%
Yes but organization does not have the capacity/capability to produce	0	0%
Yes and includes B, C, and D above	12	50%

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## Future Webinar

Please join us for the sequel:

- Using Performance Measurements to keep you on the right track



 **Investigating Unplanned Events In A Fraction Of The Time Currently Spent (Including Near Misses)**

**Questions?**

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