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Theory into practical application

Building Learning Airlines for Safety Improvement


BALPA Safety Webinar

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Theory into practical application


- Alignment between *paper* and *practice*
- Effective workplace innovations
- Staying safe
- What to do when things go wrong
- The role of the Leader
- Summary: a different, doable and directed approach




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BALPA position on safety

- *"This gives us the luxury of being outside the system and free to explore new ideas, but this is far outweighed by our lack of control over that system, which means we have to rely on influence and persuasion."*



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Alignment between *paper* and *practice*

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Reasons for rules

- As a memory aid
- To facilitate collaboration
- As a training & educational tool
- For design and planning purposes within an organisation
- As a means to identify variances in behaviour that lead to unacceptable risks




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Identifying gaps between *paper* and *practice*

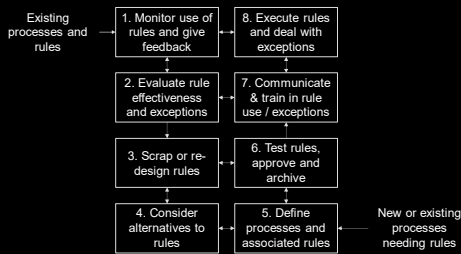
- When is this task difficult?
- What are you dependent on to do a good job?
- Are tools and resources always available to do the job?
- What do you do if you can't access tools?
- And resources in time?
- What solutions have you come up with that the rest of the organisation could learn or help you to improve?
- Where are we wasting time/money?
- Is there something which is nonsensical or unnecessary that you have to do here?

Hummerdale (2015): If it ain't broke, fix it anyway. Blog on <http://www.safetydifferently.com/if-it-aint-broke-fix-it-anyway/>, dated February 25th, 2015; accessed August 16th, 2019



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Rules management



Adapted from Hale, A., & Borys, D. (2013b)

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Maintaining alignment between *paper* and *practice*: Exemptions

- Are due to truly exceptional circumstances that do not warrant further action; or
- Require an update in the procedures that we need to address; or
- Are indicative of poor implementation (communication, training, access, buy-in)?

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Maintaining alignment between *paper* and *practice*: Soft skills / change management

- This is unavoidable
- Taking ownership is attractive
- Facilitated by a physical infrastructure that minimises the effort
- Repetitively reinforce the new ways of working (process, not just exemptions):
 - In the field
 - With those that have suffered the loss of direct responsibility for rules
 - At department level, not individuals
- Be curious rather than judgemental
- Do this publicly

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Maintaining alignment: audits & inspections



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Maintaining alignment: discipline – reasonable social cohesion

- Make use of peer pressure / social dynamics
- Improve transparency & psychological safety
- Need for management to welcome bad news
- Include outside operators - the subcontracting agreement can confound a collaborative attitude
- Use routine work (not an adverse event) to identify that someone is not executing his or her tasks satisfactorily
 - Offer support
 - Make a plan
 - Monitor performance

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Maintaining alignment: discipline - low social cohesion

- May be seduced to violate rules solely for personal motives
 - Professional cab, truck and forklift drivers, independent professional pilots and small-group mariners
 - Consumer-operators like car drivers, recreational sailors and general aviation pilots
- Properly implemented rules (communicate the new procedures and their justification, train the task executors if required, and make the procedures readily accessible).
- Support adherence by an enforcement system of minor retribution (e.g. fines) or rewards
 - high probability of detection
 - equal treatment of perpetrators
 - reasonably sized penalties for infringements
 - a reliable collection of levies
 - penalty should be administered independent of the consequences


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Effective workplace innovations

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Complexity



Gneezy, U., & Rustichini, A. (2000). A fine is a price. *The Journal of Legal Studies*, 29(1), 1-17.

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Micro-experiments in complex systems



Sidney Dekker (2018). The Woolworths Experiment. <http://www.safelydifferently.com/the-woolworths-experiment/>, accessed 2/11/2018

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Micro-experiments in Oil & Gas



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Micro-experiments in aviation maintenance



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Staying safe

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Drifting into failure

- Scarcity and competition
- Decrementalism
- Sensitivity to initial conditions
- Unruly technology
- Failing protective structures

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Scarcity and competition



Shooting incident 22 March 2016

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Sensitivity to initial conditions



Shell Moerdijk, June 2014

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Unruly technology



TK 1951, 2009

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Failing protective structures



Boeing 787 Max, June 27, 2019 in Seattle, Washington

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Keeping the discussion on risk alive



Minister in his car, without seat belt, in *Jinek*, September 2019

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Keeping the discussion on risk alive (1)

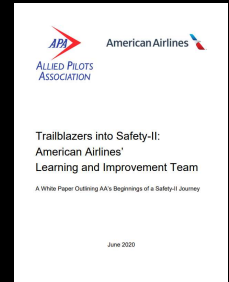


Cummings, May 2020

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Keeping the discussion on risk alive (2)

- To increase organizational knowledge about work as it is done on the flight deck
- Being able to translate patterns into opportunities for pilots to increase their clarity and ability to communicate their mental models
- Opportunities lie with training, informal and formal discussions at various levels of the organization and exploring process change.



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Building expertise



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What to do when things go wrong

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Understanding the event



Dutch Safety Board (2011). Take-off from Taxiway, Amsterdam Airport-Schiphol, 10 February 2010, <https://www.dsb.nl/en/2010/02/10/take-off-from-taxiway>

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Maximising learning

- Describe "human error" as a symptom of something wrong in the system
- Avoid retrospective biases such as hindsight bias and outcome bias
- Avoid counterfactual descriptions
- Avoid passing judgement
- Include decisions, actions and events that are geographically or in time removed
- Compare with routine actions
- Avoid simplifying the context
- Do not use wording that mystifies rather than clarifies

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The aim is to learn: judge where improvements are most challenging yet feasible

- Most valuable and difficult part of an investigation is the mitigation of risks
- Elimination or physical isolation of hazards are more effective than warning signs or changes to rules...
- ... yet administrative improvements (including training) are four times more common
- Some 'improvements' actually complicate operations
- Recommendations should be clear and unambiguous even when read separately
- It is line management who must work out how to reduce the safety deficiency
- Include a realistic time limit for responding to a recommendation
- It is higher management's role to hold people accountable
- Effective investigators understand that the choices that the investigation team makes are subservient to the learnings that can be achieved.




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Restoring relations

- Who is hurt?
- What are their needs?
- Whose obligation is it to meet those needs?



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The role of the Leader

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Trading targets for transparency (1)



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Trading targets for transparency (2)



Photo by Marie D. De Jesus/Houston Chronicle. Used with permission.

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Circumventing confusion about culture



RTV Noord, October 9th, 2018



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The safety department

- Help roll out this approach
- Support and facilitate groups of workers
- Monitor progress
- Overcome a lack of resources or excessive documentation requirements
- Tie into the Safety Management System
- Maintain the integrity of the reporting system
- Ensure that legal obligations, industry standards and supply chain requirements are met
- Check upon exceptions
- Execute incident investigations
- Help managers identify how work is actually done (leave normative attitude at home)
- Design and execute micro-experiments
- Apply restorative practice methodology
- Help operators gain experience at the edges of the operating envelope in a safe-to-fail manner



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Summary

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Different

- Procedures are not always up to date or appropriate
- Deviations viewed as a trigger to analyse the situation
- Seek to understand how work really gets done
- Create a framework of rules with the front line and then empower them to take responsibility for any exceptions.
- 'Human error' Is not a cause of an adverse event but a symptom
- Safety margins erode in the absence of adverse events
- Numerical goals lead to manipulations that frustrate transparency and understanding
- Recommend an alternative to the traditional forms of just culture.



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Doable

- Identify where safety is jeopardised
- Understand what is going on
- Innovate sensibly & monitor effect on safety and performance.
- Keep the discussion on risk alive
- Ensure that operators are competent
- What to do when things go wrong
 - to maximise learning
 - to restore relations



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Directed

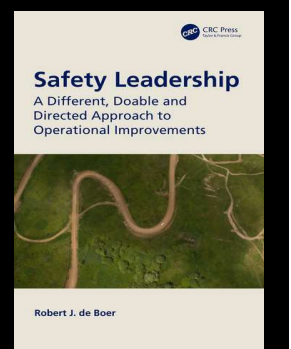
- Thinking is somewhat controversial
 - Rejects the term 'human error'
 - Challenges the established culture of absolute compliance
 - Suggests that "zero harm" policies are counterproductive
 - Requires the acceptance of accidents as part of working life
- Need to direct the team
 - to be curious without passing judgement
 - find out about how work really gets done
- Keep press, public, politics and even peers at bay
- Direction is required to get managers and staff to welcome 'bad news'



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Get the book

- Safety Leadership: A different, doable and directed approach to operational improvement
- With a foreword by prof. dr. S.W.A. Dekker
- Available from February 2021 at CRC Press
- ISBN: 9780367652753



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