How to Incorporate Incident Learnings

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bme
A member of the Omnia Group

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How to Incorporate Incidents Learnings

What is an incident?

Why learn from incidents?

How to learn from the incident?

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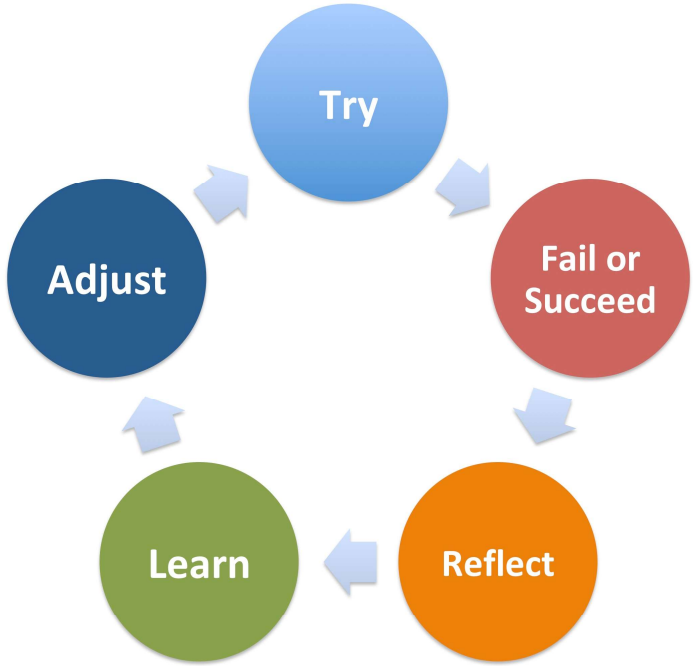
Learning from Incident Process

- Incident Definition
  - Unintended/Unforeseen/Unwanted ev causes unintended consequences
- Learning from Incidents Process
  - Process through which the organisatic seek to understand any negative safet events
  - Aim of the process is to prevent simila future events
  - Process focus on ensuring that lessor learnt from incident investigations are implemented and lead to an improvement



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Why Learn from Incidents

- Experiences of incidents are translated into preventative measures
- Prevent incidents
- To reduce the number of incidents
- When an incident occurs- raise awareness of what can go wrong (or go wrong again)
- Improve knowledge of the organisation
- Modify behaviours, skills and values

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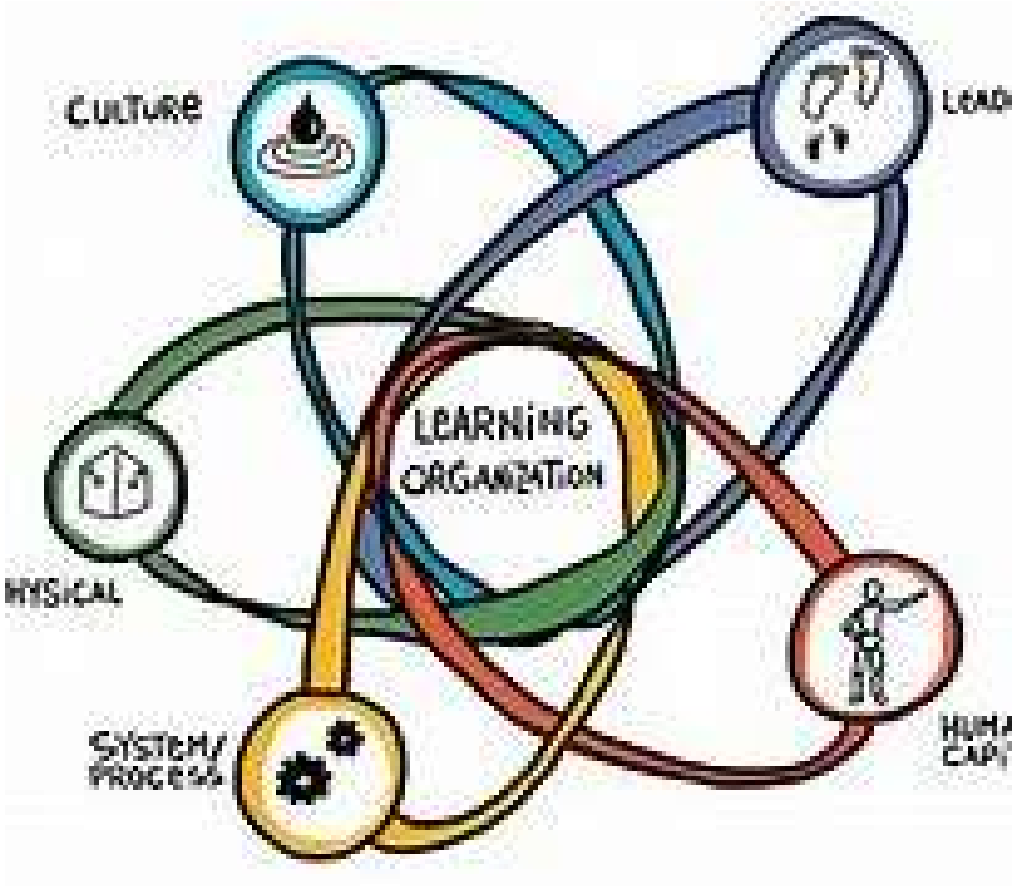
Why Learn from Incidents

- Learning organisation actively create, captures and transfers knowledge to be able to adapt to a changing environment
- Learning process plays a key role in preventing incidents
- Learning includes training as well as learning from experiences (incidents)
- Learning also includes learning from other organisation's incidents



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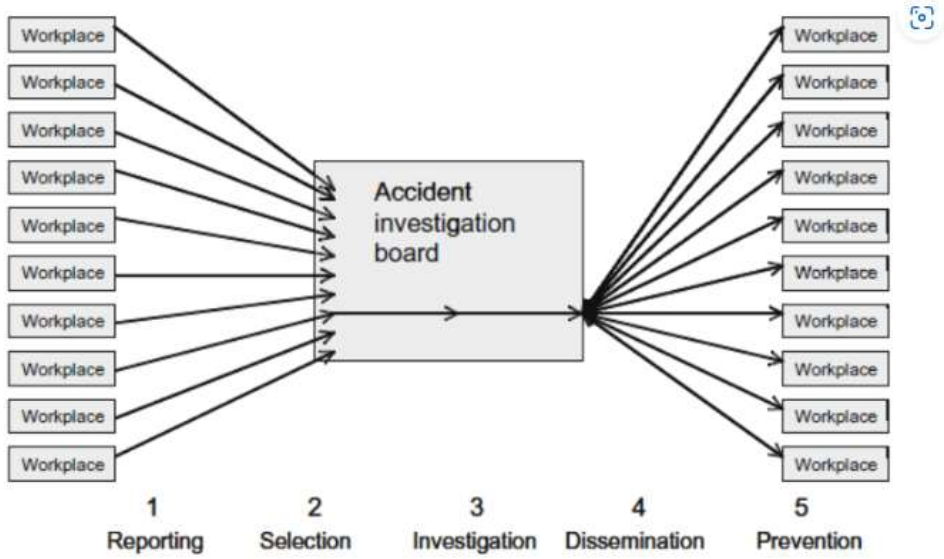
Steps in Incident Learning

- Incident Analysis is first step
- Lindberg (2010) developed a **CHAIN** model in which lessons are disseminated and used for preventative actions
- The CHAIN model comprise six activities (1) reporting, (2) selection, (3) investigation, (4) dissemination, (5) prevention, and (6) evaluation.



CHAIN Model (Lindberg, 2010)

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Learnings from Incidents

- Drupsteen et al (2011) developed an analytical framework to learn from incidents
- **Barriers to effective learning** from incidents include: Fear, blame, and anxiety about reputational loss and legal proceedings

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Framework (Drupsteen et al(2011))

- The learning from incidents process consists of 11 steps, divided into 4 stages:

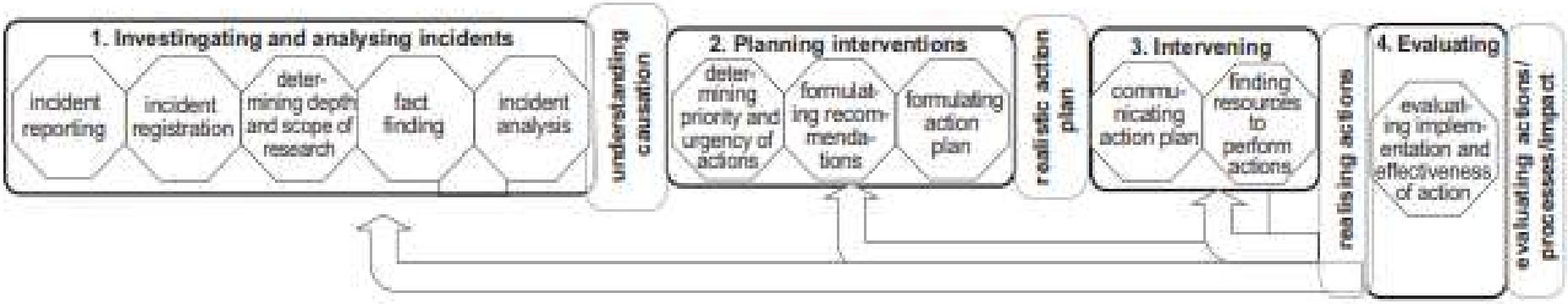

Figure 1. Model of the learning from incidents process.

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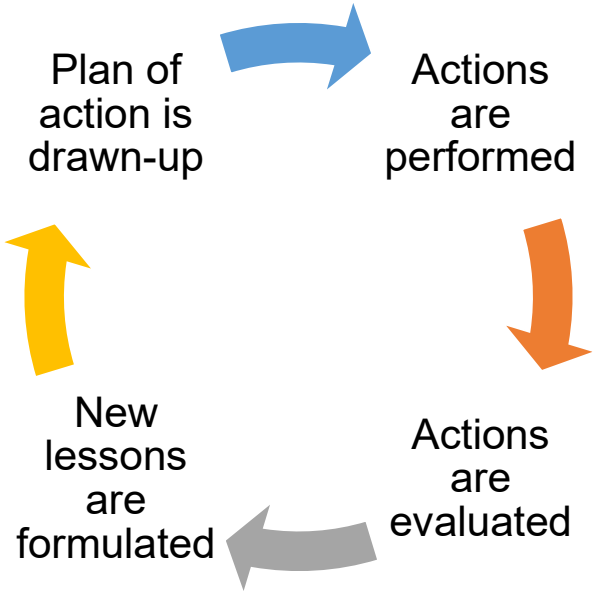
Framework (Drupsteen et al(2011))

- Incident learning process can be compared to the PDCA (Deming cycle)
  - Plan of action is drawn-up, actions are performed, actions are evaluated and new lessons are formulated.



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Framework (Drupsteen et al(2011))

- Each of the 4 stages, leads to a result (gate), vital input into the next stage
- When the result is suboptimal, the next stage is expected to be less effective.
- If a step is not performed well, this is a loss of learning potential

Stage 1- Investigation and analysis

Stage 1 has the following steps:

- Incident reporting
- Incident registration
- Determining the depth and the scope
- Fact finding
- Incident Analysis

Vital output of this stage:

- Understanding of the causation of incidents, including underlying causes
- Options to prevent future occurrences.

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Stage 2: Planning interventions

Stage 2 has the following steps:

- Determining the priority and urgency of actions
- Formulating recommendations
- Formulating an action plan

Vital output of this stage:

- Realistic action plan, which is based on a good understanding of the (underlying) causes and their remediation.
- Plans should be specific, measurable, attainable, and relevant, and dates for commencing of activities should be included.

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Stage 3: Intervening

Stage 3 has the following steps:

- Communicating action plan
- Finding resources to perform actions

Vital output of this stage:

- Realisation of the actions.
- Resources, time, money and human and technological capabilities is vital.

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Stage 4: Evaluation

Stage 4 has the following steps:

- Evaluation includes whether the actions from the plan were implemented and whether these actions were effective.
- If the action was not effective- reasons for this should be identified

Vital output of this stage:

- Evaluation of actions and processes, and the impact on the organisation
- If possible, on the safety performance.
- The evaluation should improve the other three stages of the process (if possible)
- .

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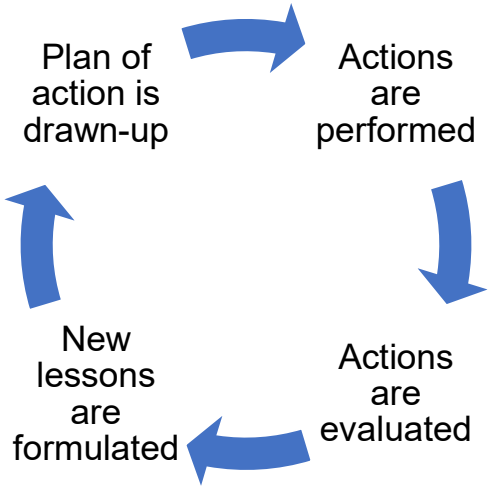
Learning Culture

- Learning Culture: is to learn from own incidents and other incidents
- Organisational factors in learning are important.
  - Structure of safety management – incident registration and action plans
  - Organisational safety culture – transparency, blame-free culture, and feedback on unsafe behaviour.
- The actual performance and learnings is determined by the practical activities in the organisation- changing behaviour.



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Levels of Learning

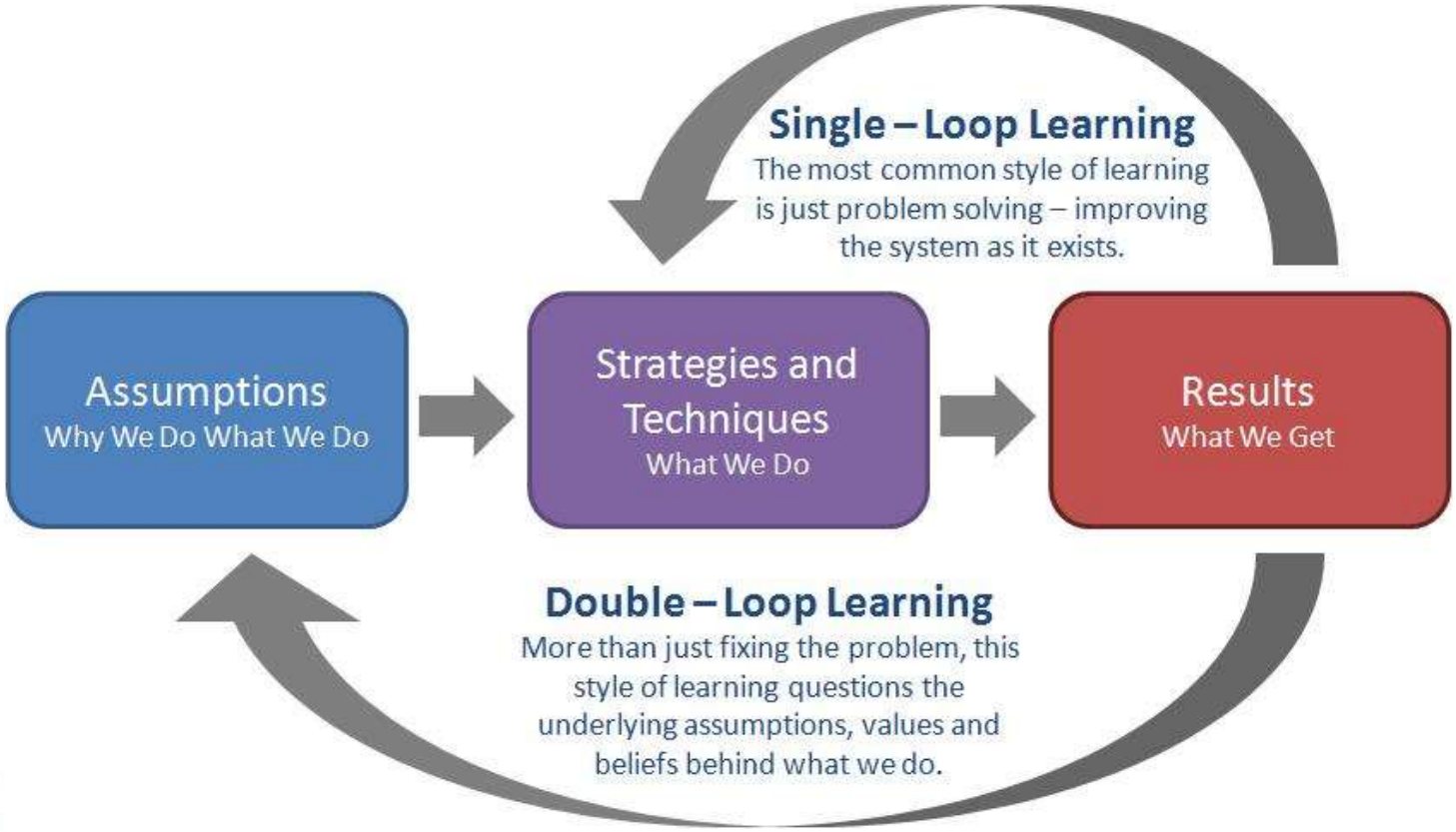
Research proved a distinction in organisational learnings- between ‘single loop learning’ and ‘double loop learning’ (Argyris et al., 1979)

When an organisation exhibits double-loop learning, improvements are not limited to a specific situation, but the values of the theory-in-use are evaluated and changed as well

When investigating an incident that was caused by malfunctions in a valve this could for example mean:

- A defective valve that caused an incident is replaced by a functioning valve of the same model (single-loop learning)
- A defective valve that caused an incident is replaced by a new more appropriate type of valve (double loop learning)

Double-loop Learning



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Double-loop learning

Double loop theory is based upon a “theory of action”

There are four basic steps in the “action theory” learning process:

(1) discovery of adopted and theory-in-use, (currently)

(2) invention of new meanings (desirable)

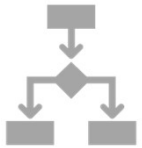
(3) production of new actions (implement desirable)

(4) generalization of results

(new norm).

In double loop learning, assumptions underlying current views are questioned and hypotheses about behavior tested publically.

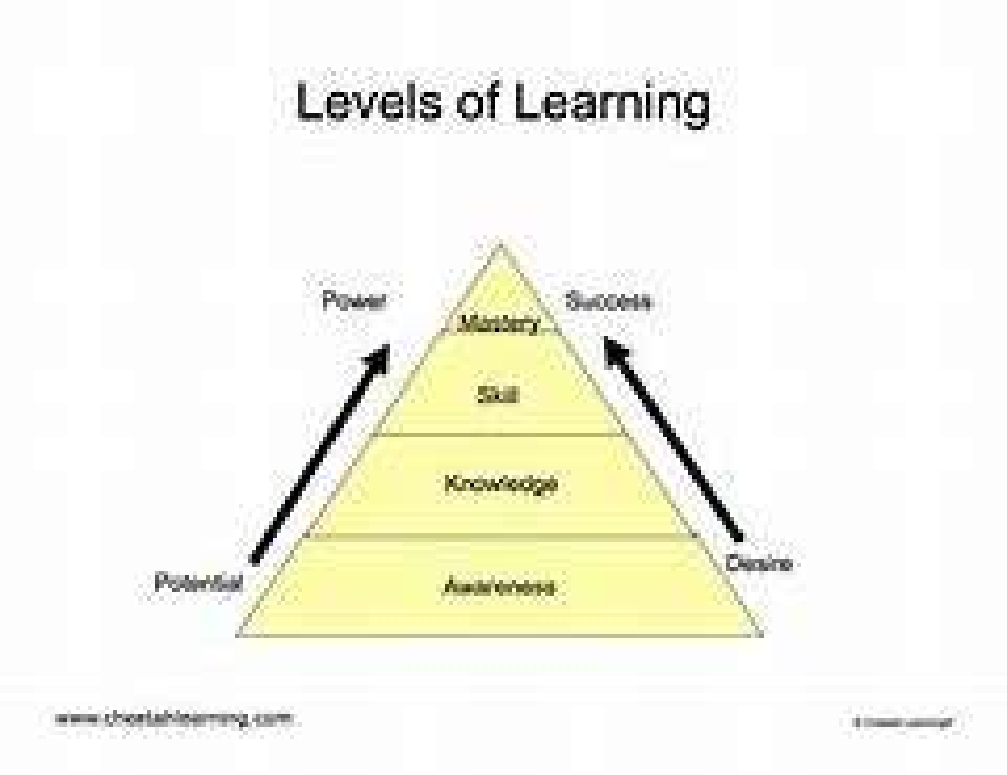
The result is deeper learning through communication.



The end result of double loop learning should be increased effectiveness in decision-making and better acceptance of failures and mistakes.

Levels of learnings

- Learning should be characterised
  - Open sharing and discussion of reliabl information
  - Decision-making based on free inform choice
  - Internal commitment on decisions mac
  - Monitoring of the implemented decisio made
  - Learning is more effective for the achievement of meaningful changes
  - Learning is more effective for innovation.



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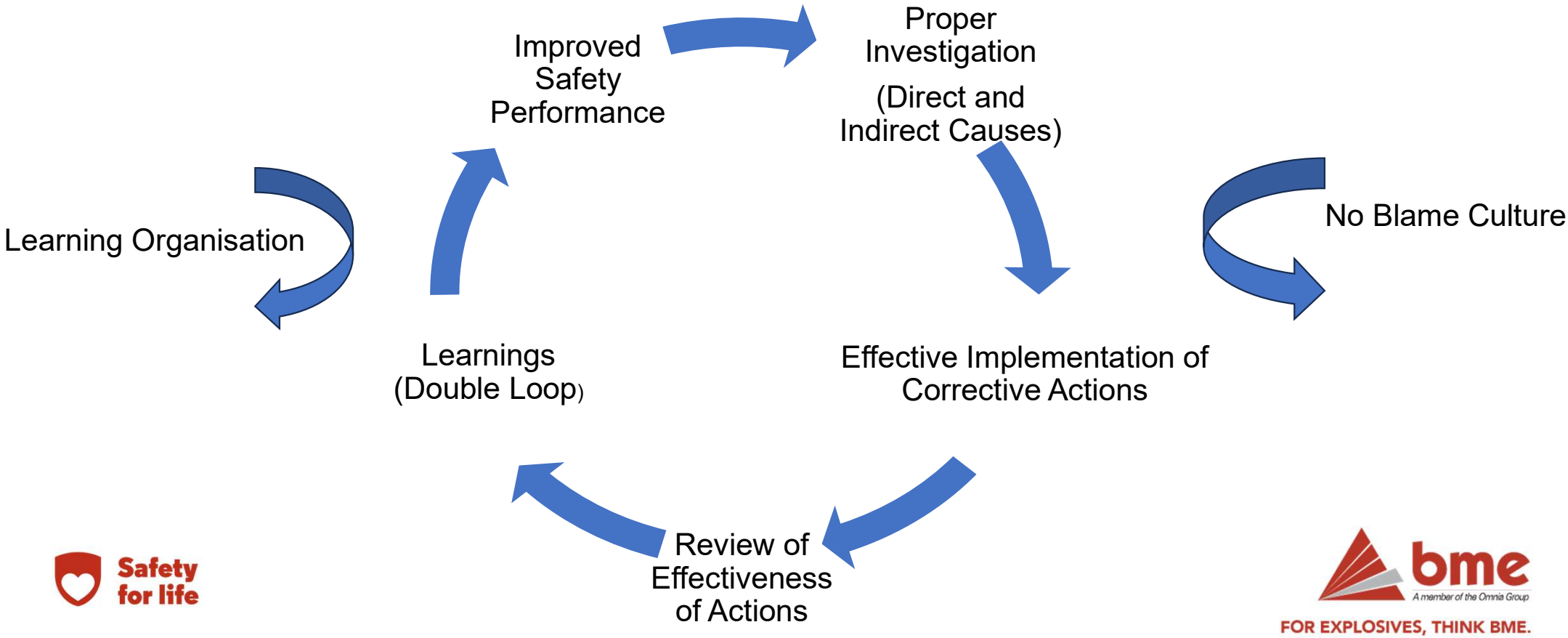
How does it all fit together?



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Summary

- Despite efforts to learn from incidents, many companies still struggles to sustainably learn from incidents to prevent incidents in the future
- There are models that can help companies to learn from incidents. These models can help improve safety performance
- There are organisational learning theories that can assist practitioners understand learnings from incidents.

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THANK YOU

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