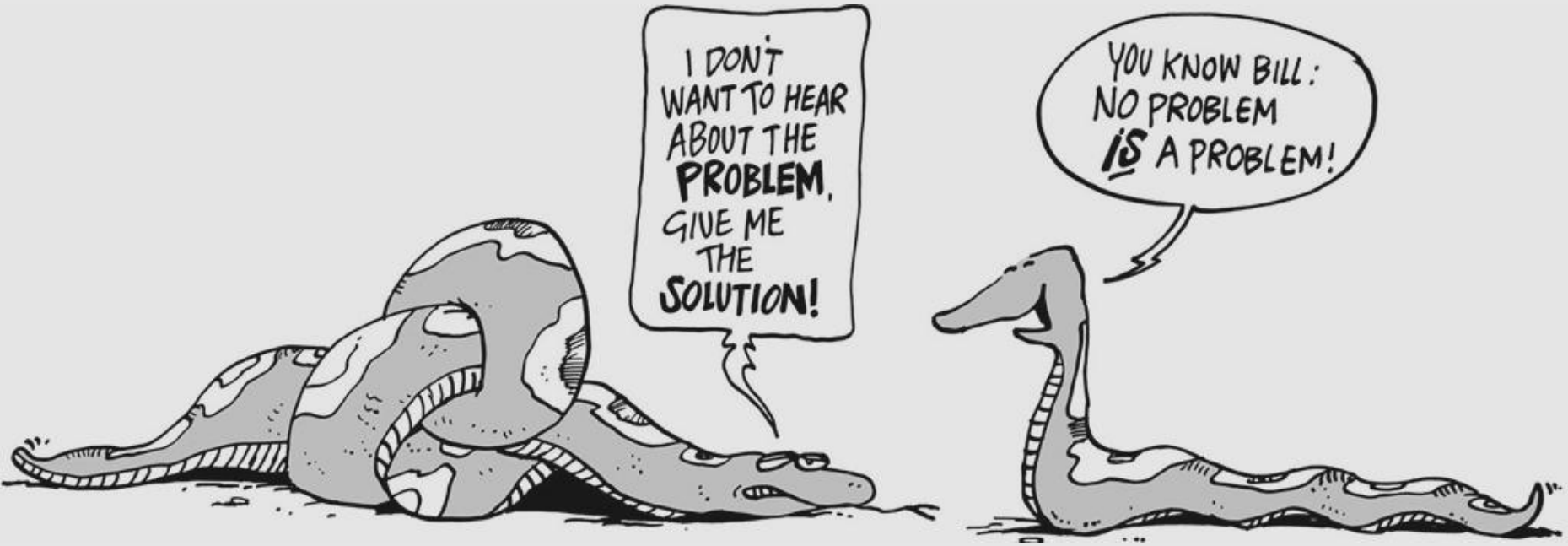
Designing Effective Lean Transformations



Dan Jones & René Aernoudts

November 2, 2010

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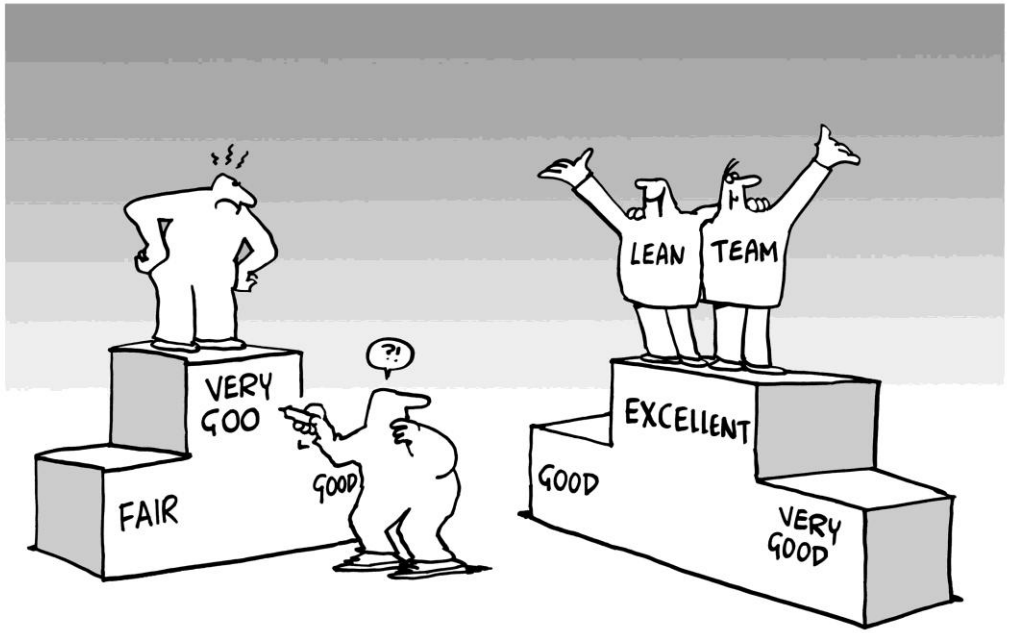
Agenda

1. Introduction
2. Why '**Designing Effective Lean Transformations**' is an issue
3. Root causes… and Countermeasures
4. Key advice



Lean Global Network

- **Global Mission: *'to be the leading educators for society in maximizing value and minimizing waste. To accomplish this goal, we develop, advance and implement lean principles, tools, and techniques as a system designed to enable positive change'.***
- ***Affiliates support lean transformations by developing lean practitioners and leaders through education, coaching, support, action research, events and learning materials.***
- **Founded in 1997 by Dr. Jim Womack & Prof. Dan Jones – authors of leading literature on Lean: "*The Machine that Changed the World*", "*Lean Thinking*" en "*Lean Solutions*".**
- **Executive Committee: Dan Jones, John Shook, Normal Faull and René Aernoudts.**

Jim Womack

Dan Jones

Lean Global Network

- **LGN is a non-profit corporation with Headquarters in Boston, Cambridge, USA and consists of a growing number of non profit or nongovernmental organisations (currently 17) devoted to the promotion of lean thinking and the development of lean leaders.**

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René Aernoudts

- MD Lean Management Institute Netherlands
- Executive Board member Lean Global Network
- Adjunct faculty at Virginia Tech, USA
- Research ‘Leadership in Lean Transformations’
- 14 years of Lean experience in over 70 projects worldwide (government, food & process industry, retail & logistics, raw materials, heavy equipment, financial industry)
- Fascination: developing people & organisations in a Lean Thinking environment

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Designing Effective Lean Transformations

Why is this an issue?

- Most Lean Transformations (70 to 75%*) do not achieve the results they aimed for!
- Two critical factors identified as major contributors to success or failure:
  - The way transformations are designed
  - The role and behaviour of involved management
- The way the workforce thinks and acts, is for 80% determined by the way their management thinks and acts

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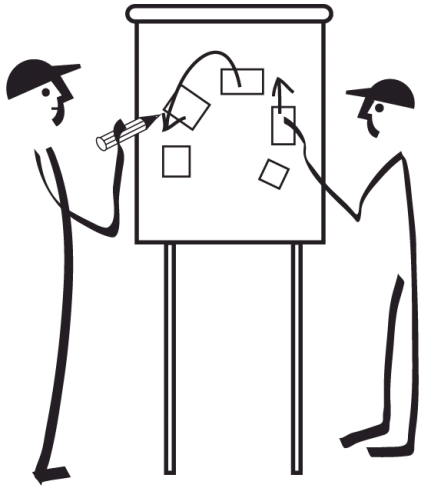
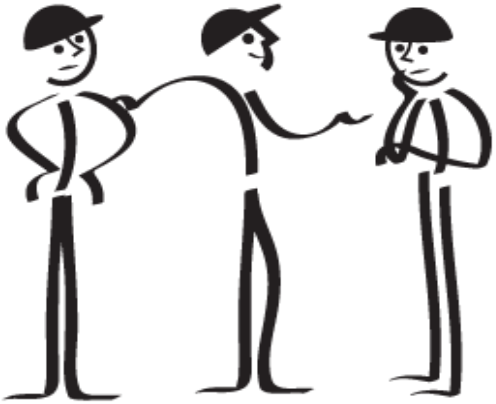
* Source: research performed in the USA and Europe within 1500 organizations by leading universities

Root causes… and Countermeasures

1. Understanding by top management
2. Lean methodology
3. Design of a Lean Transformation
4. Change & Learning Approach



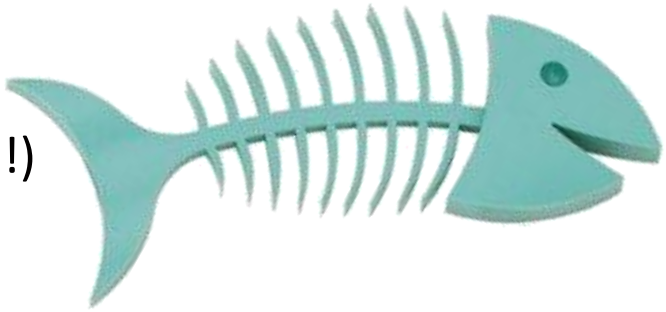


Understanding by top management

Root causes:

- A manager's own 'mental model': a person's assumptions about how the world works, based on their experience, upbringing and character
- Often this current role and behaviour seem to have been successful for them
- No previous experience with Lean
- No true understanding of what it is and what can be achieved
- Raised in a traditional way of reducing costs
- Uncertainty about their expected role, power, necessary skills and ability to cope with a changing environment

⇨ Locked in a 'bad process'… (it's not bad people!)



Understanding by top management

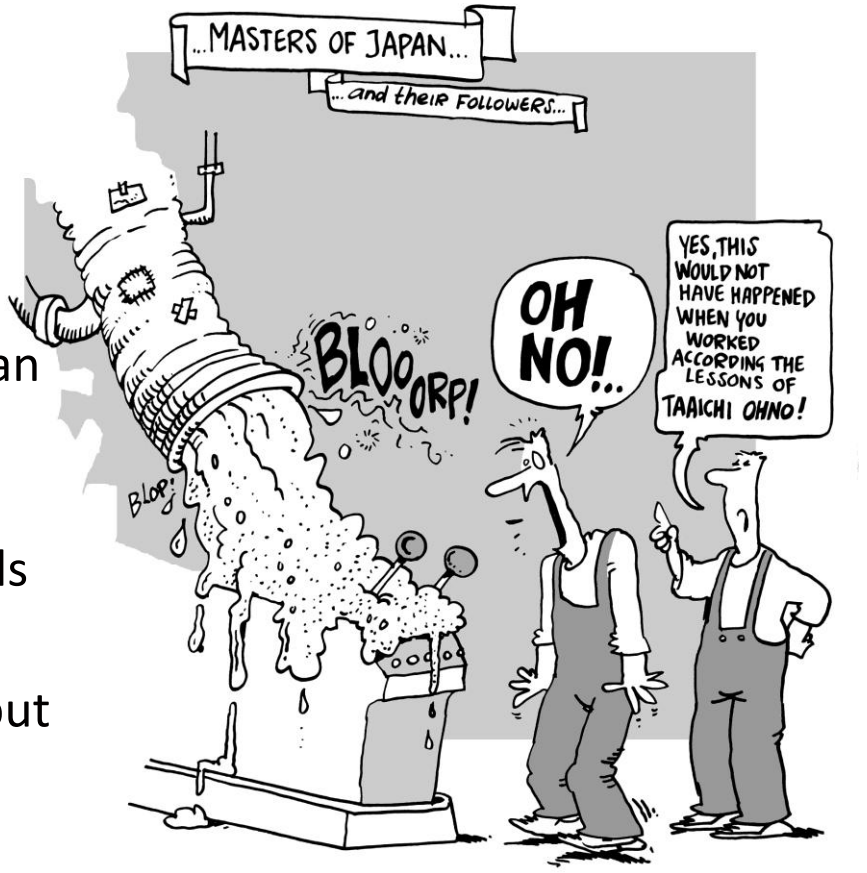
Countermeasures:

- Create awareness for the ‘traditional’ mental model
- Reward the good things it brought but be clear about the necessity of ‘a new way of thinking’
- Clarify what’s expected of the manager in their new role and behaviour
- Provide help to get true understanding of what Lean is
- Create ‘small learning experiments’…

Lean methodology

Root causes:

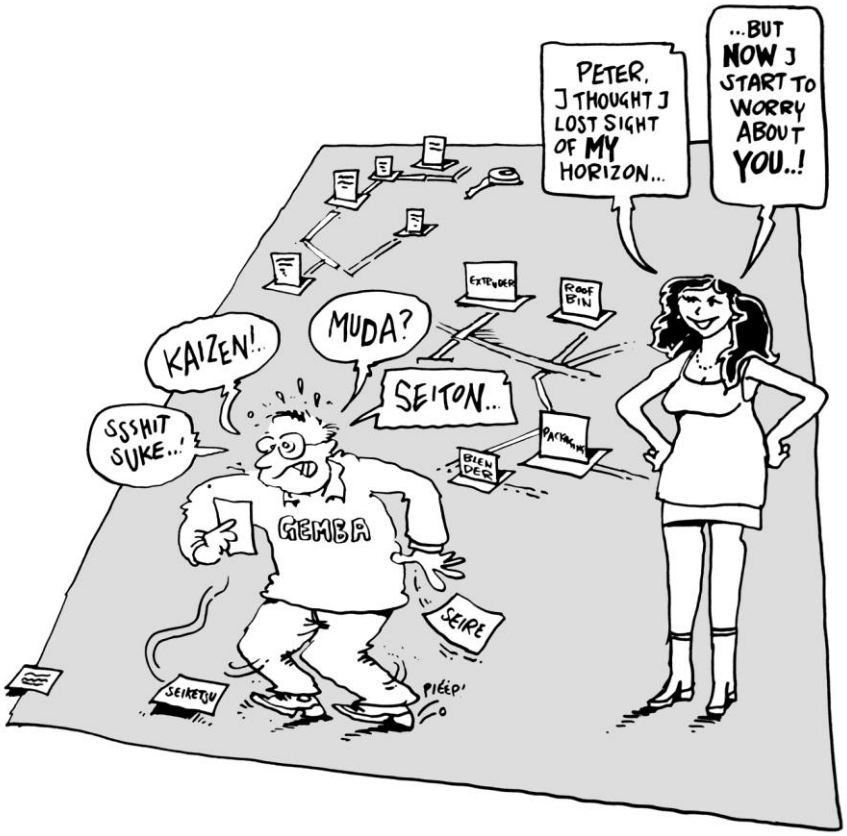
- If you are new to Lean Thinking, the methodology in itself seems pretty weird and complex… and full of paradoxes
- People trying to convince you that Lean is a good thing appear to be part of a new ‘religion’ or ‘cult…’
- Lean shows itself as a set of mere tools but is in fact an integrated system
- Lean is not providing easy solutions, but puts ‘tension on the system’, which “will create problems…”



Lean methodology

Countermeasures:

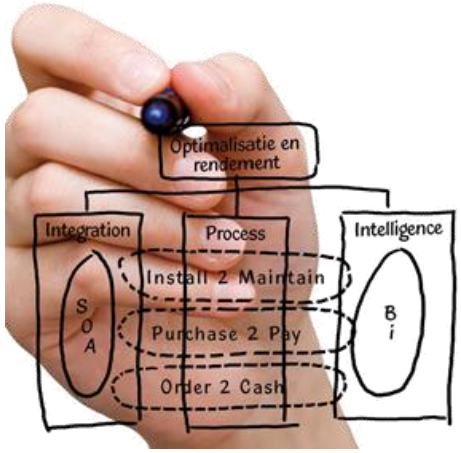
- Create awareness that Lean is an integrated system, that will ‘get’ to you step by step and that you will have to ‘Learn To See’
- Prevent to get stuck in ‘Lean jargon’
- Be clear about Lean not being a ‘quick fix’, but a driver to structurally eliminate problems by eliminating root causes
- Spend time ‘getting to know’ Lean



Design of a Lean Transformation

Root causes:

- Static-static thinking versus static-dynamic
- Design following a traditional Project Management approach (Push)
- Not connected to the core business issues (Pull)
- Design done by staff people or an external expert, hired to try to convince the organisation to follow his or her ‘model’
- ‘Copy/paste’ or ‘boxed/instrumentalised’ approach
- ‘One size fits all…’



Design of a Lean Transformation

Countermeasures:

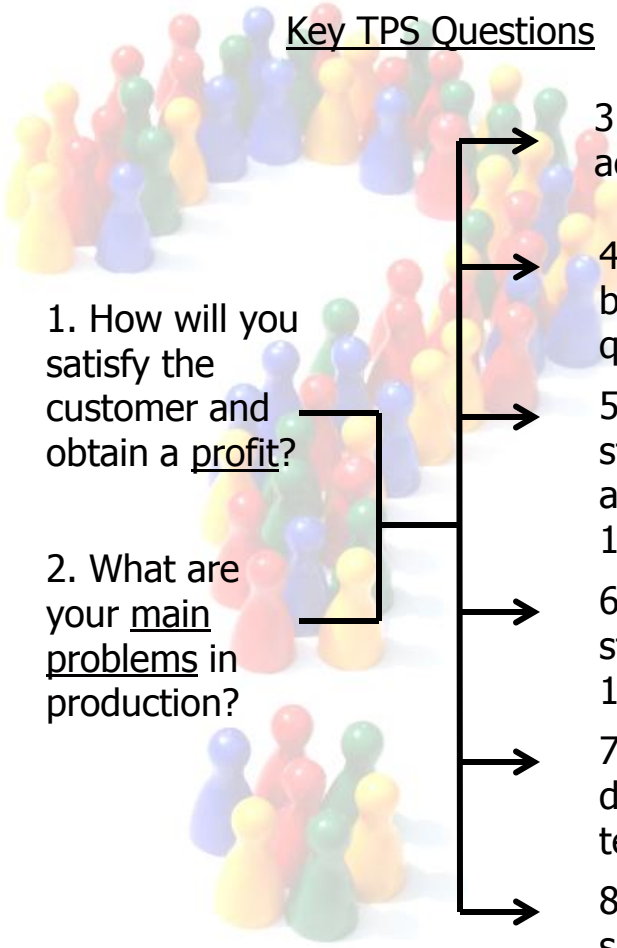
- Start with the real business issues and understand the types of problems you're trying to solve:
  - Problem
  - Maintenance
  - Development
  - Characteristic/unsolvable

- Design a fitting approach using experienced resources and 'owners' of the process
- Only use 'thoroughly tested' approaches, so run controlled experiments
- Follow the PDCA cycle

Example…

Lean Leadership	Strategy Deployment, A3 thinking, leading principles, Go See (Gemba Walking), Ask Why, Show Respect, Standard Work for management, Education
Value Stream Improvement	Identify Value Streams, eliminate waste, creating flow, pull systems etc. either via Kaizen of Kaikaku on Point, Flow or System level
Operational management	Performance, Capacity and Visual Management Working on Basic Stability (4M's, OEE, 5S and other tools) Problem Solving Culture and Continuous Improvement
Knowledge, Skills, Behaviour	To ensure a solid understanding, acceptance and motivation for working in a new way we invest in a build up of knowledge, management skills, education and behavior.

Let's revisit some basic Lean questions



Key TPS Questions	Typical Problems	Countermeasures or analysis tools
1. How will you satisfy the customer and obtain a profit?		
2. What are your main problems in production?		
3. How will you achieve 100% JIT?	•On-time delivery •Inventory •Lead-time	•VS Mapping •Flow of product •Pull system / kanban
4. How will you build in 100% quality?	•Customer defects •Scrap •Rework	•Abnormality detection •Stop the machine •Process Cpk
5. How will you stabilize the availability to 100%?	•Capacity losses •Downtime •Scrap & Rework	•6 losses: OEE •OA/Maintenance •Problem solving
6. How will you standardize work 100%?	•Labor productivity •Scrap & rework •Safety	•Job Instruction •Standardized work •Motion analysis
7. How will you develop natural work team leaders?	•Team morale •Skills development •Small improvements	•TWI/Job Relations •TWI/Job Instructions •TWI/Job Methods
8. How will you sustain and improve?	•Recurring problems •Firefighting •Poor problem solving	•PDCA •Root cause analysis •Recurrence prevention

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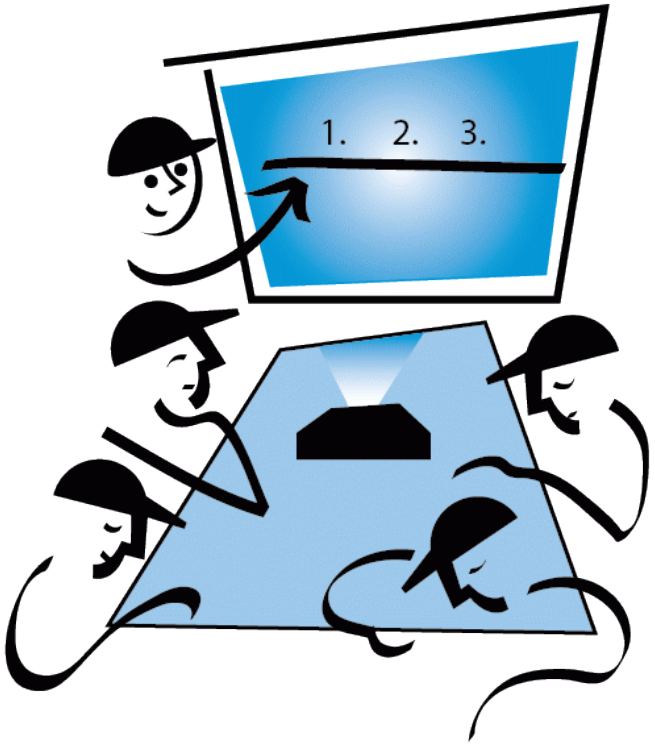
Source: Art Smalley

Change & Learning Approach

Root causes:

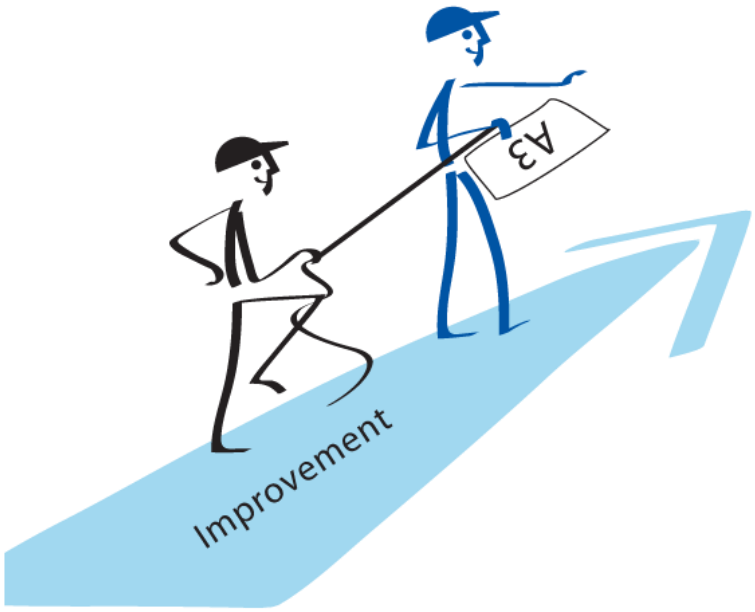
- Training in tools (not in ‘the thinking’) in a ‘traditional’ way, ‘One-off’ training events in classrooms
- No clear structure in approach: connecting the real questions, deploying the strategy, understanding what lean is, how to sustain results, how to share learnings throughout the organisation
- Not seen as a process in itself



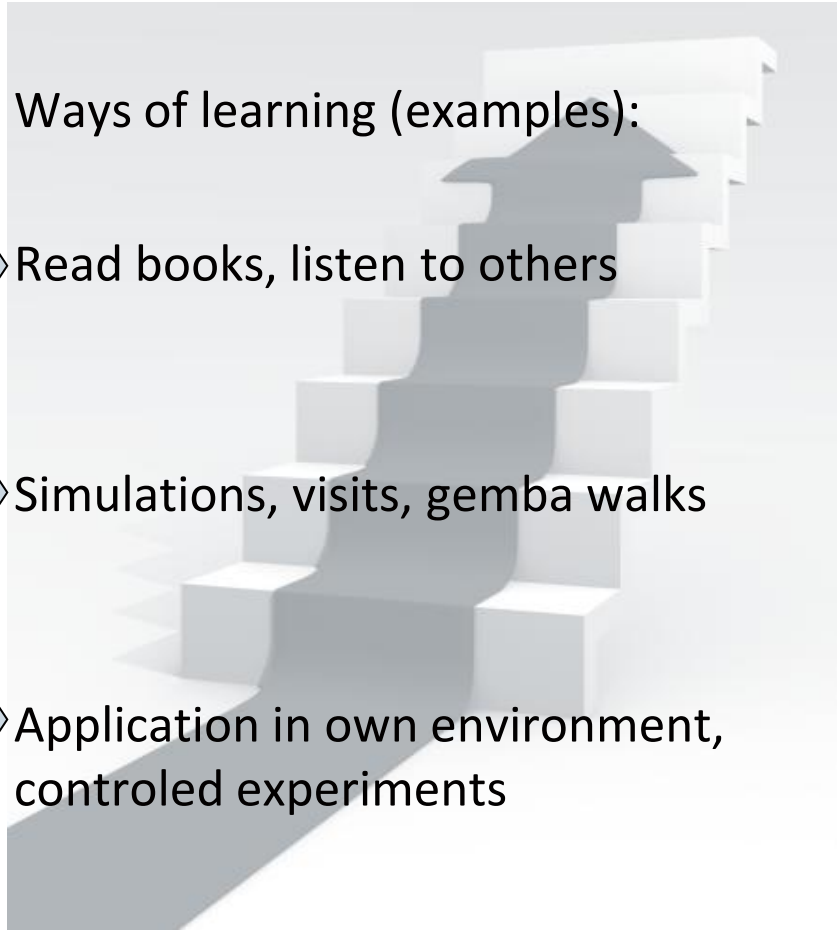
Change & Learning Approach

Countermeasures:

- Rethink the way you educate management!
- Apply Lean on the approach
- Create a common language and way to learn using the A3 thinking process
- Create new learning routines based on Learn-Apply-Reflect
- Create a clear structure, providing answers to different solutions



Learning levels



			Ways of learning (examples):
Thinking		Rationale	Read books, listen to others
Feeling		Experience	Simulations, visits, gemba walks
Acting		Will power	Application in own environment, controled experiments

Key advice

- Design based on true business questions
- Use a developmental approach
- Run controlled experiments as learning environments using all involved to participate
- Learn-Apply-Reflect (short learning cycles)
- Build in P-D-C-A in education and development programs (C-A!)
- Let the managers become the trainers (quickly!)
- Teach using all three levels of learning (Thinking, Feeling, Acting)

⇨ **Create a pull for learning & development**