

# ADDO<sup>™</sup>

ALL DAY DEVOPS

NOVEMBER 6, 2019

Chad Todd

*Learning From Failure  
& How You Can Too*



# Inspirational Cast of Characters



John Allspaw



Dr. Richard Cook



Dr. David Woods

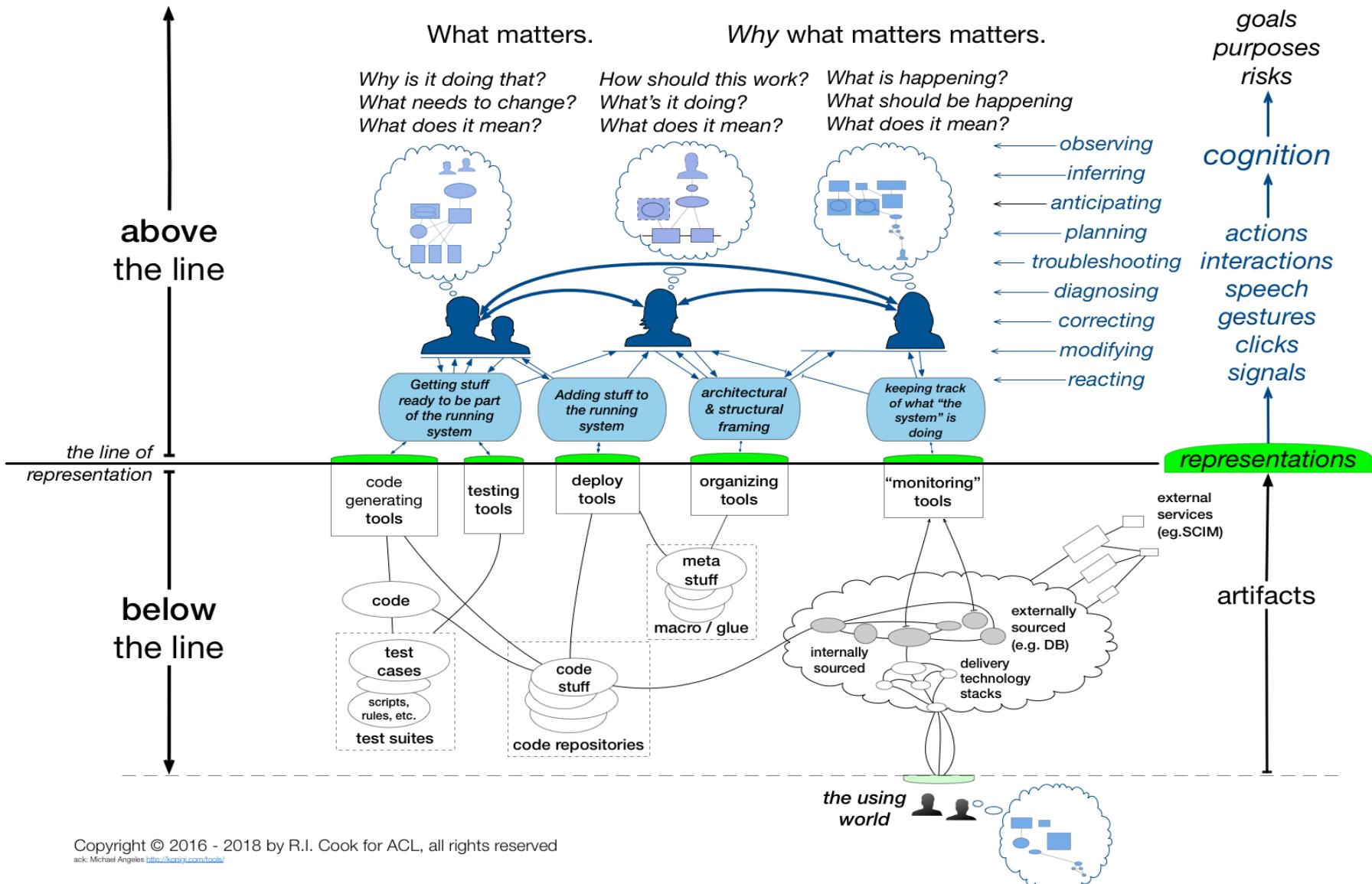


**Incidents =**



# *Above-the- Line/Below-the-Line Framework*



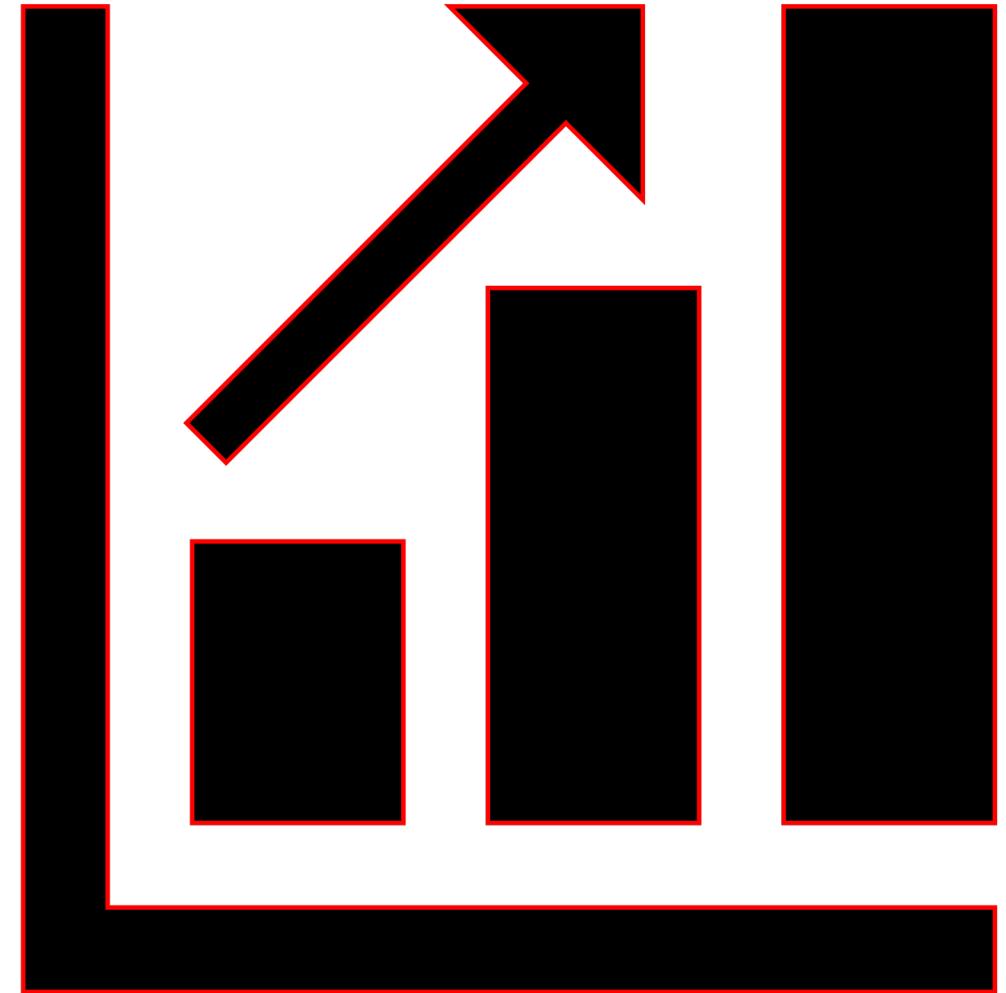


# Challenges

- Individual ‘mental models’ of the system below-the-line will go stale as change happens
- Individuals will somehow need to construct enough understanding of how others understand components of the system in order to collaborate



# Goals



Increase capacity to *adapt to changes*  
and surprises

Increase capacity to adapt to changes  
and surprises

Enhance *operational expertise*

Increase capacity to adapt to changes  
and surprises

Enhance operational expertise

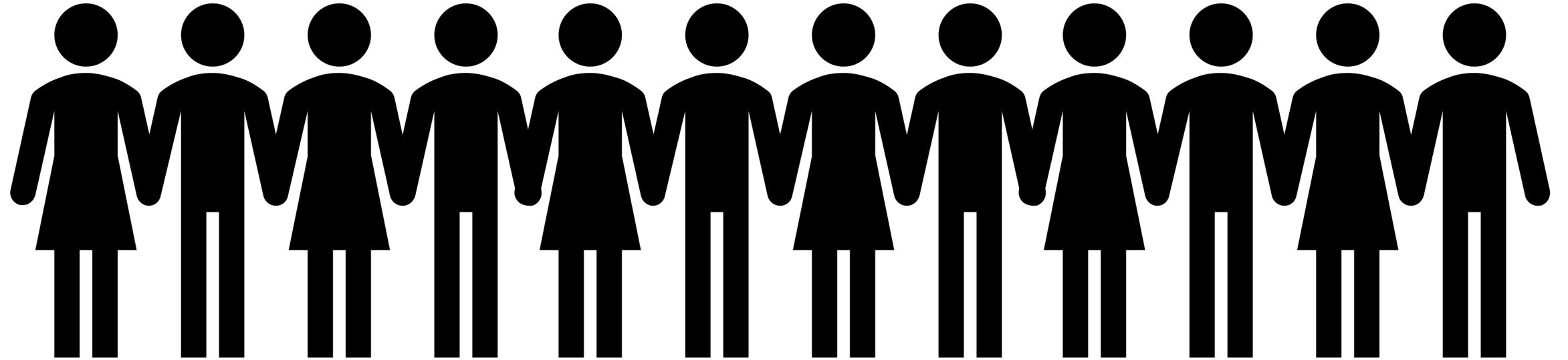
Advance as a *learning organization*

Increase capacity to adapt to changes  
and surprises

Enhance operational expertise

Advance as a learning organization

Improve understanding of *human*  
factors and *safety*



# Values



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*Deep* conversations over *shallow* data

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*Adapting* to new surprises over *remediating*  
prior incidents

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*Narrative descriptions* of surprising events  
versus *out-of-context quantitative data*

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*How* things went **right** versus *why* things went **wrong**

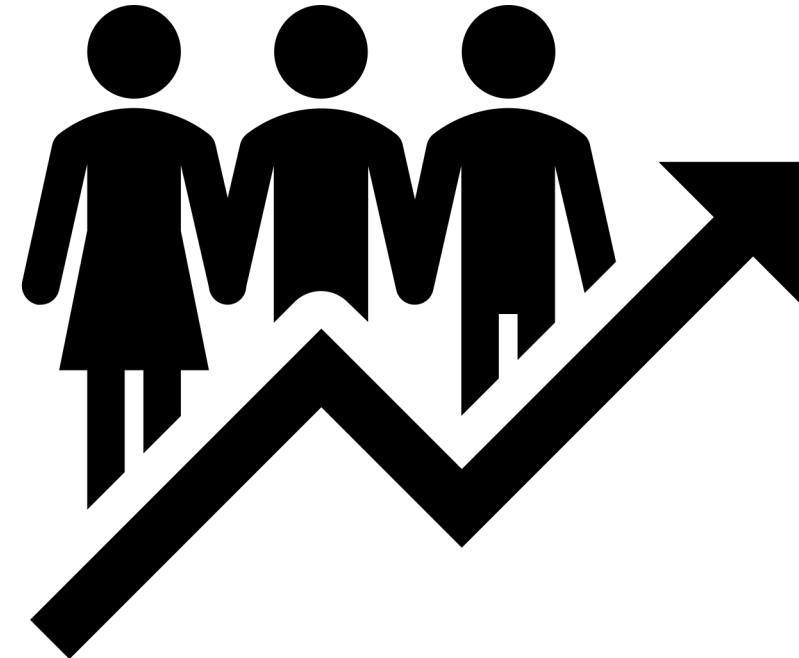
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*Blameless*

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**Root Cause**



# Moving Beyond **Human** Error



**“Why?”** is the wrong question

pursue second stories

escape from hindsight bias

understand the work performed at the sharp end  
of the system

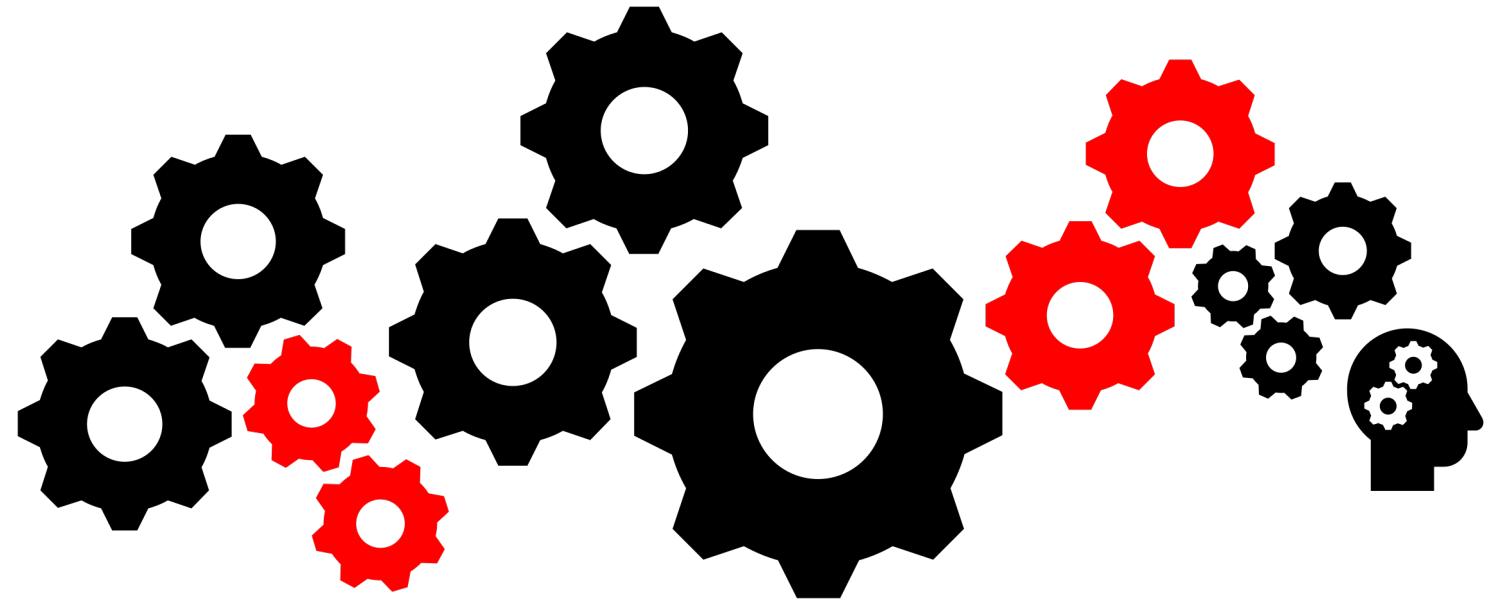
search for systemic vulnerabilities

study how practice creates safety

search for underlying patterns

change will produce new failures

using new technology to support humans



# Default Practices



stick to the timeline

questions

learning survey

remediation brainstorm

action items

ownership

stick to the timeline

questions

learning survey

remediation brainstorm

action items

ownership

One of best ways to ensure you are following a path of exploration (instead of looking for a single fix) is by sticking closely to the timeline

stick to the timeline

questions

learning survey

remediation brainstorm

action items

ownership

The power lies in the questions,  
not the answers.

stick to the timeline

questions

learning survey

remediation brainstorm

action items

ownership

Survey the group to ensure people are learning.

stick to the timeline

questions

learning survey

**remediation brainstorm**

action items

ownership

Anything goes, because we are looking for improvements to the current system and trying to unearth innovative ways to support the learnings from the meeting.

stick to the timeline

questions

learning survey

remediation brainstorm

**action items**

ownership

Not as important as the learning taking place, however, there will most likely be work that needs to be done. Keep in mind that new work brings on new complexities and more room for failures.

stick to the timeline

questions

learning survey

remediation brainstorm

action items

ownership

Decide who owns the action items  
and documentation

# Questions



# *Invisible Parts of Expertise*

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# *Dumb Questions*

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***Descriptions, Not Explanations***

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you  
should  
jargon  
that's not my job  
why  
always  
never  
only  
just

Words/Phrases to  
**Avoid**

how

what

what if

could we

what do you think about

what would you have wanted  
to know

Words/Phrases to  
**Seek**

# Pitfalls

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Counterfactual Reasoning

Normative Language

Mechanistic Reasoning

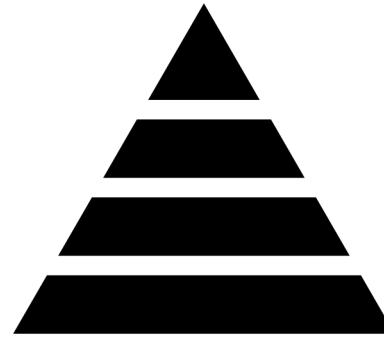
Cherry Picking Data

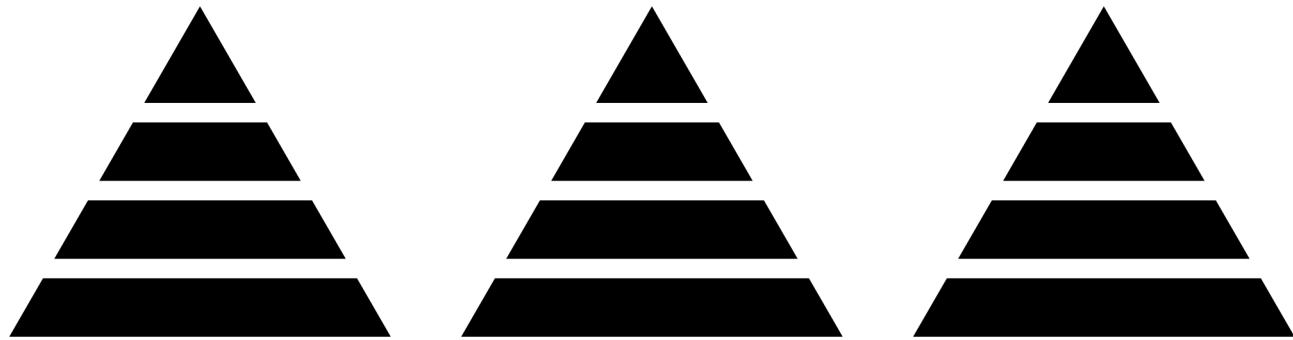
Shallow Data Gathering

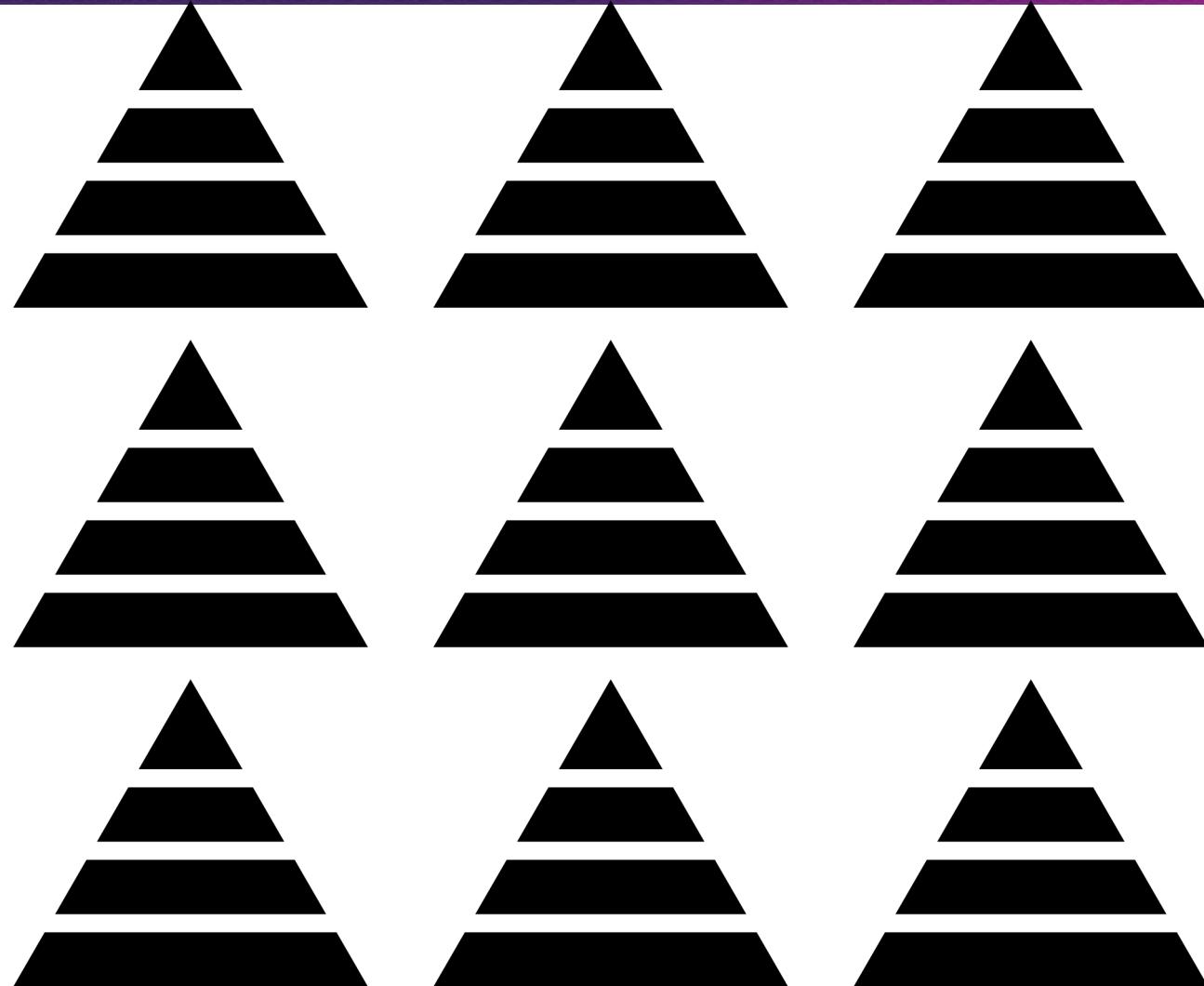
# *What Makes a Good Facilitator*

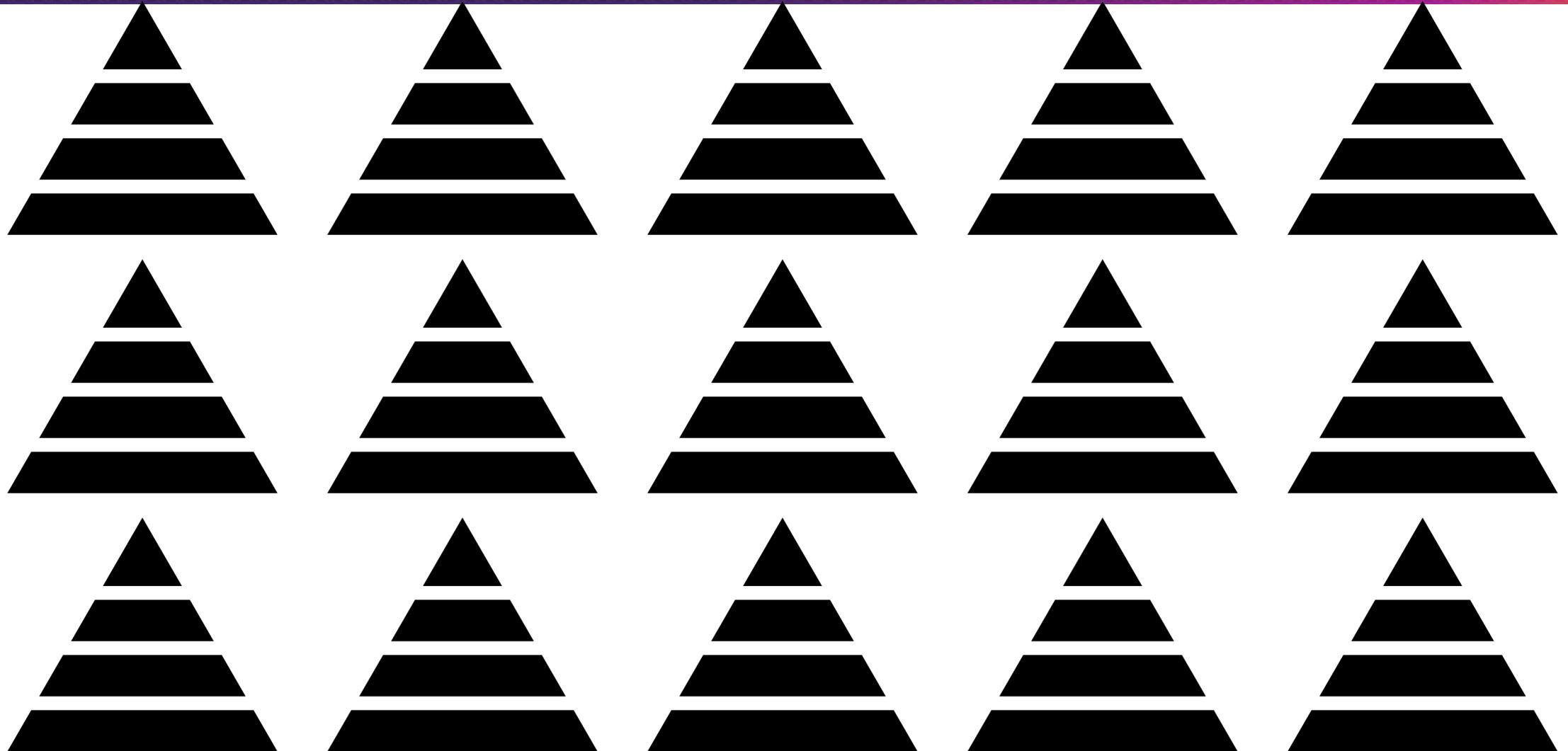
# *Learning Review Walkthrough*



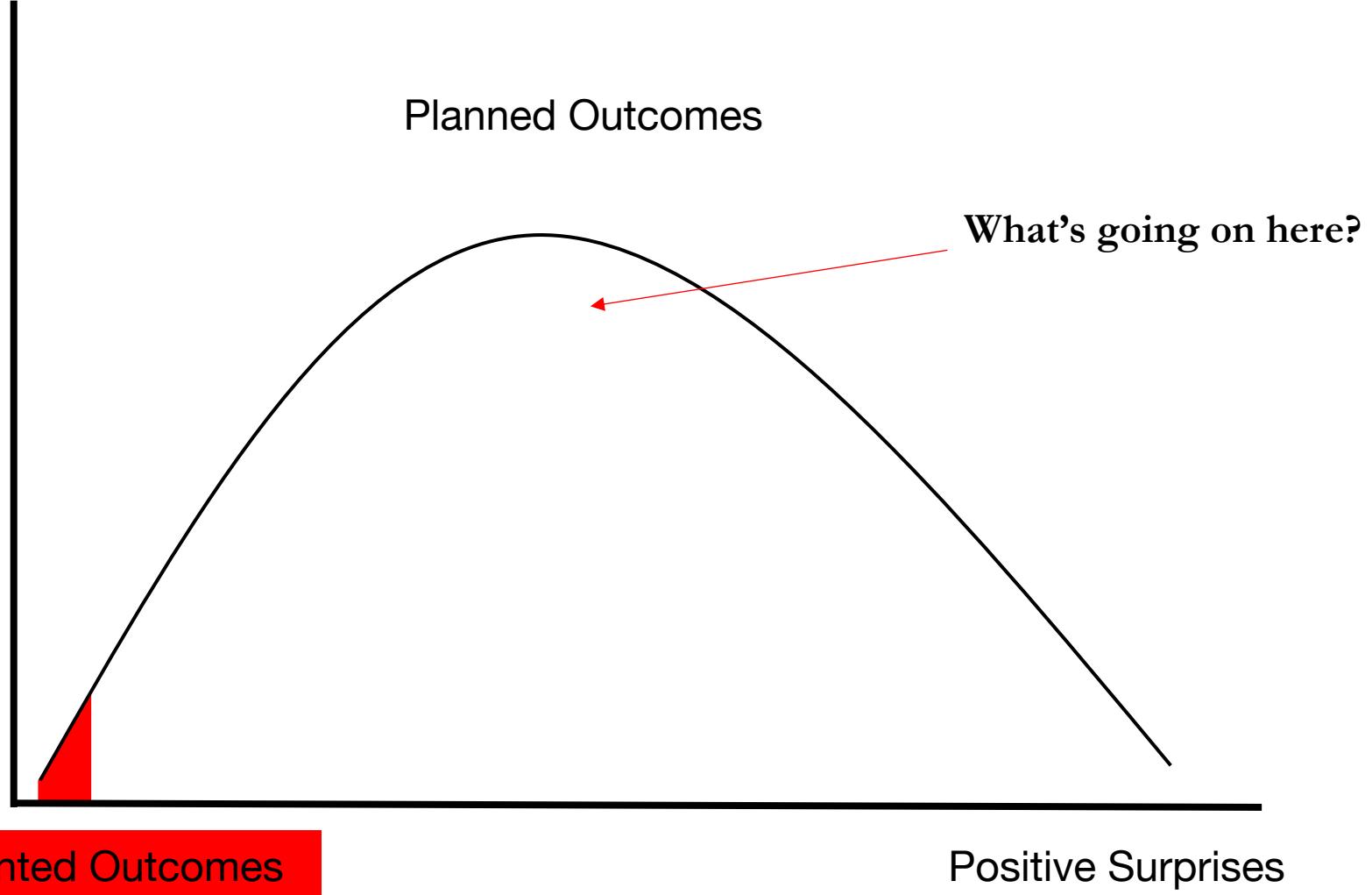




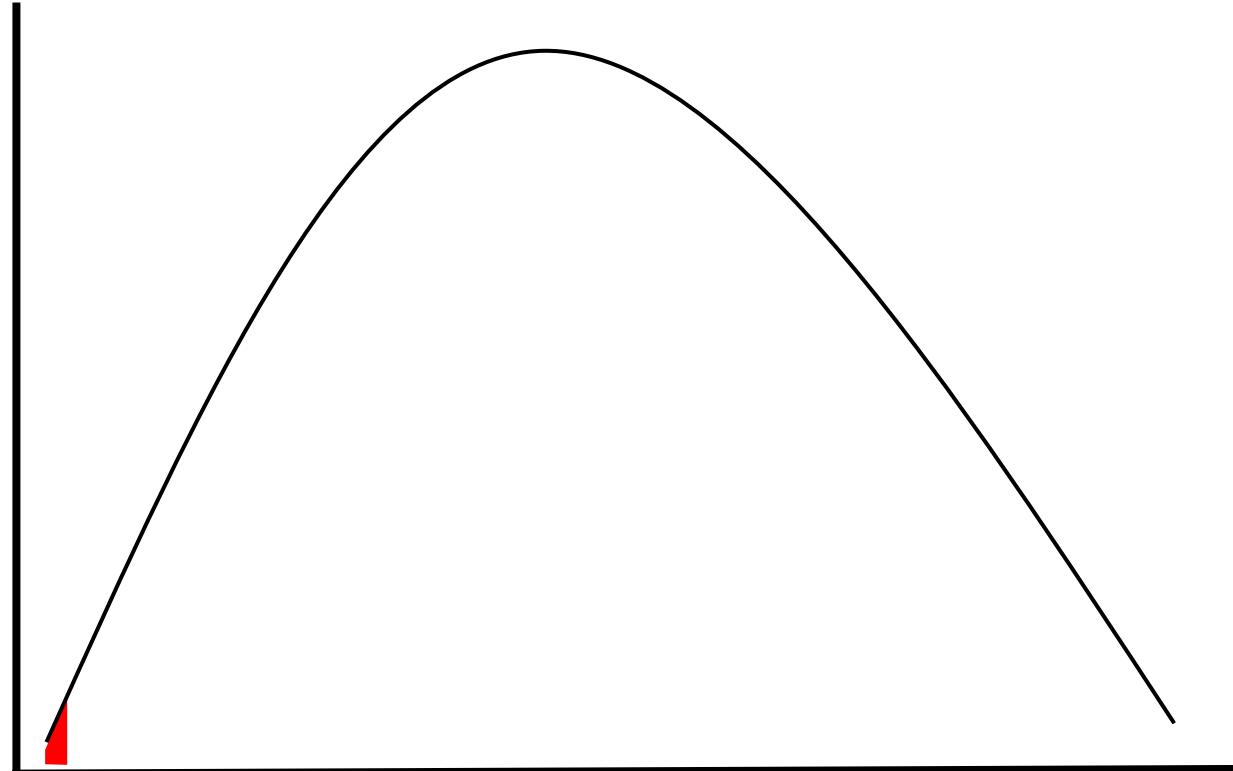
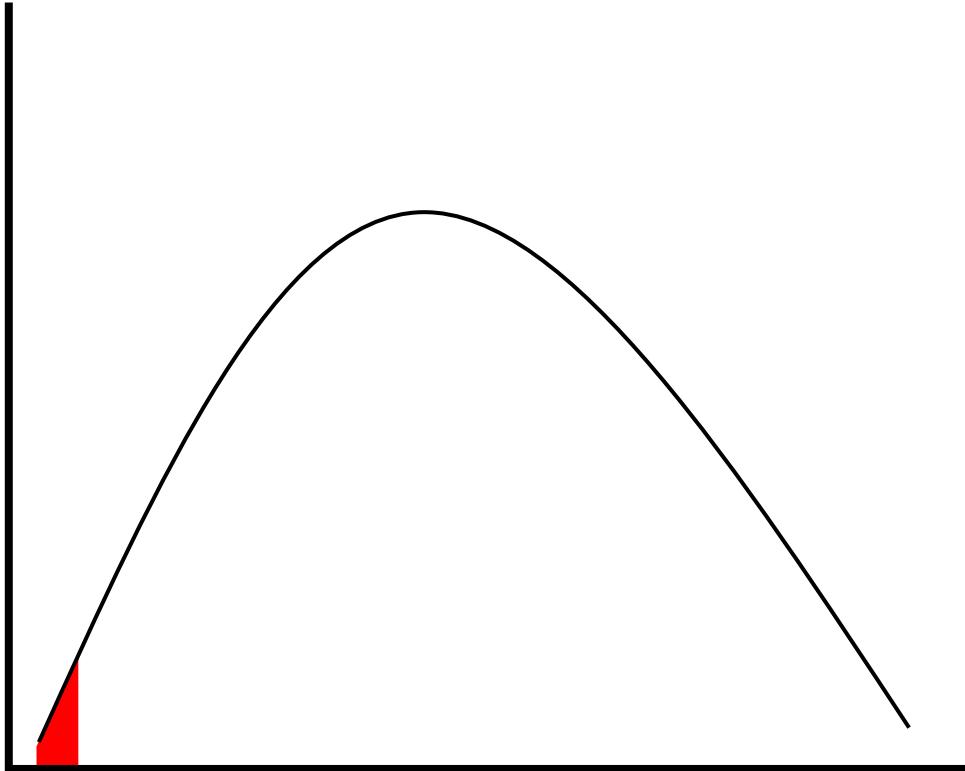




**The Perfect Storm**



Focus on what goes right



# *Challenges*

# Recap

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Remain Blameless

Root Cause to Contributing Factors

Ask The Right Questions

Our Systems are Complex

Focus On What's Going Right

The Goal is to Learn

**Incidents =**



## If it weren't for the people...

<https://skybrary.aero/bookshelf/books/2928.pdf>

## The Infinite Hows (or, the Dangers Of The Five Whys

<https://www.kitchensoap.com/2014/11/14/the-infinite-hows-or-the-dangers-of-the-five-whys/>

## Etsy Debriefing Facilitation Guide

<https://extfiles.etsy.com/DebriefingFacilitationGuide.pdf>

## Why Do Things Go Right

<http://www.safetydifferently.com/why-do-things-go-right/>

## Moving Past Shallow Incident Data

<https://www.adaptivecapacitylabs.com/blog/2018/03/23/moving-past-shallow-incident-data/>

## How Complex Systems Fail

<http://web.mit.edu/2.75/resources/random/How%20Complex%20Systems%20Fail.pdf>

## The STELLA Report

<https://snafucatchers.github.io/>

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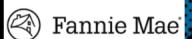
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