



# Creating a Culture of Continuous Improvement – Using the Improvement Kata

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# Purpose of Today's Presentation

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Awareness; not skill development

Sense of the subtle yet powerful nuances of Improvement patterns (aka Kata)

A paradigm shift in thinking about your role as a manager, leader, lean facilitator, process owner; and how continuous improvement is achieved and sustained



What do you struggle with?

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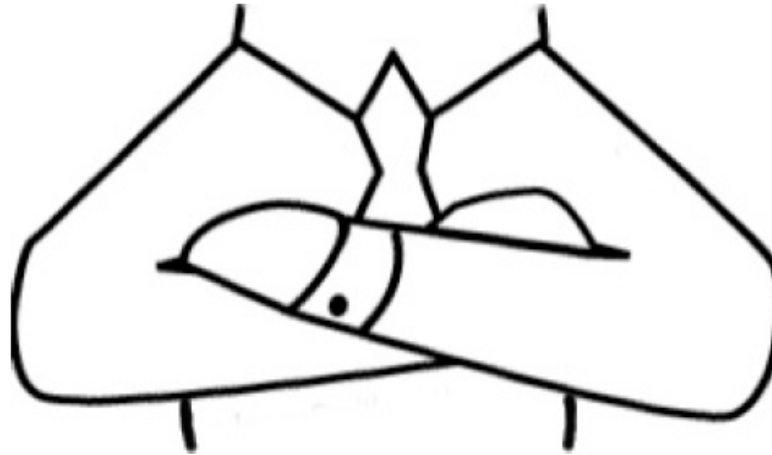
Sustainability

Rigor

Discipline

# A QUICK EXPERIMENT

Take a moment... please cross your arms.  
Then re-cross them the other way.



*How did it feel the second time compared to the first?*



For most of us the second time feels odd. You have to consciously think about it and be more deliberate.

*What would happen if you practiced folding your arms the other way every day?*



It would become normal; something you can do without thinking about it.

# MUCH OF WHAT WE DO IS HABITUAL

Like crossing our arms, performed almost without thinking

Habits are behaviors that have been repeated regularly and occur unconsciously. The repeated behavior develops neural pathways in the brain, making the behavior easier to complete.

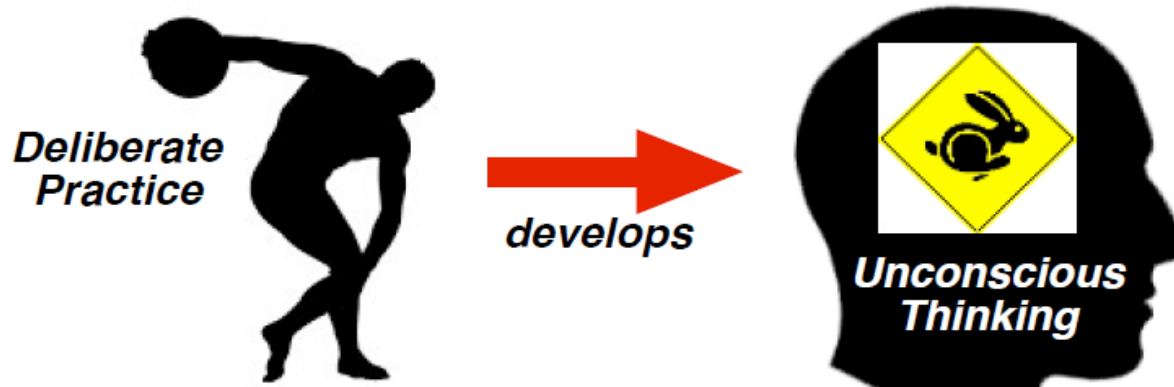




# WE HAVE THE ABILITY TO CHANGE OUR AUTOPILOT

Humans have the power to develop new habits

You can rewire your thinking and habits by  
deliberately practicing a different pattern



*You can change the culture of an organization,  
and even an entire society, this way.*

# What's next?

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## WE ALSO HAVE COGNITIVE BIAS

A tendency to draw incorrect conclusions in certain circumstances based on cognitive factors rather than evidence



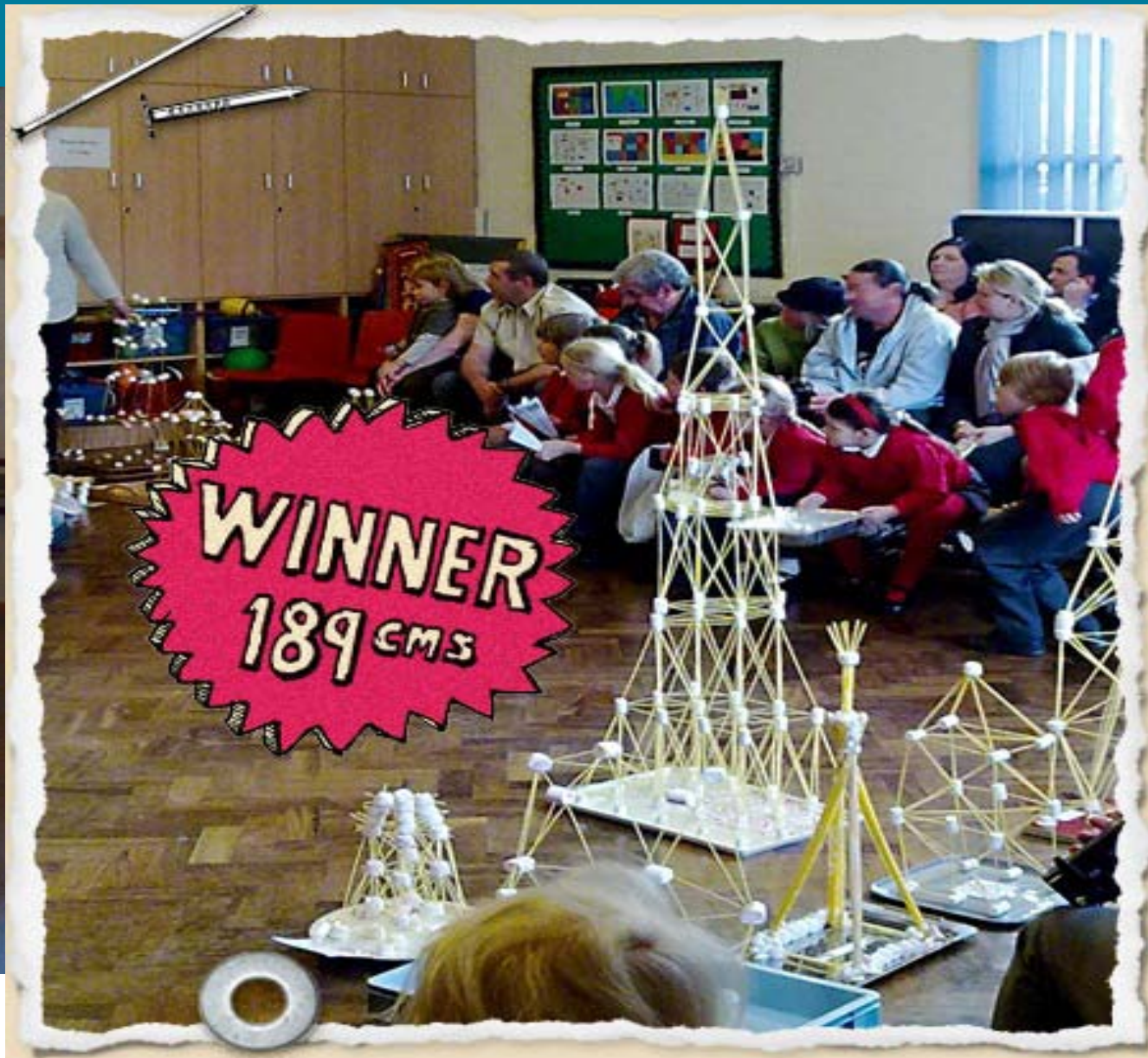
Our habits work well under many circumstances, but in certain cases they lead to errors known as *cognitive biases*

For example, a pitfall of many habits is that the past experiences that created them do not necessarily represent future situations.



# The Marshmallow Challenge





Seattle Children's  
HOSPITAL • RESEARCH • FOUNDATION

Continuous Performance Improvement



## WHAT'S A KATA?

A kata is a routine you practice deliberately, so its pattern becomes a habit

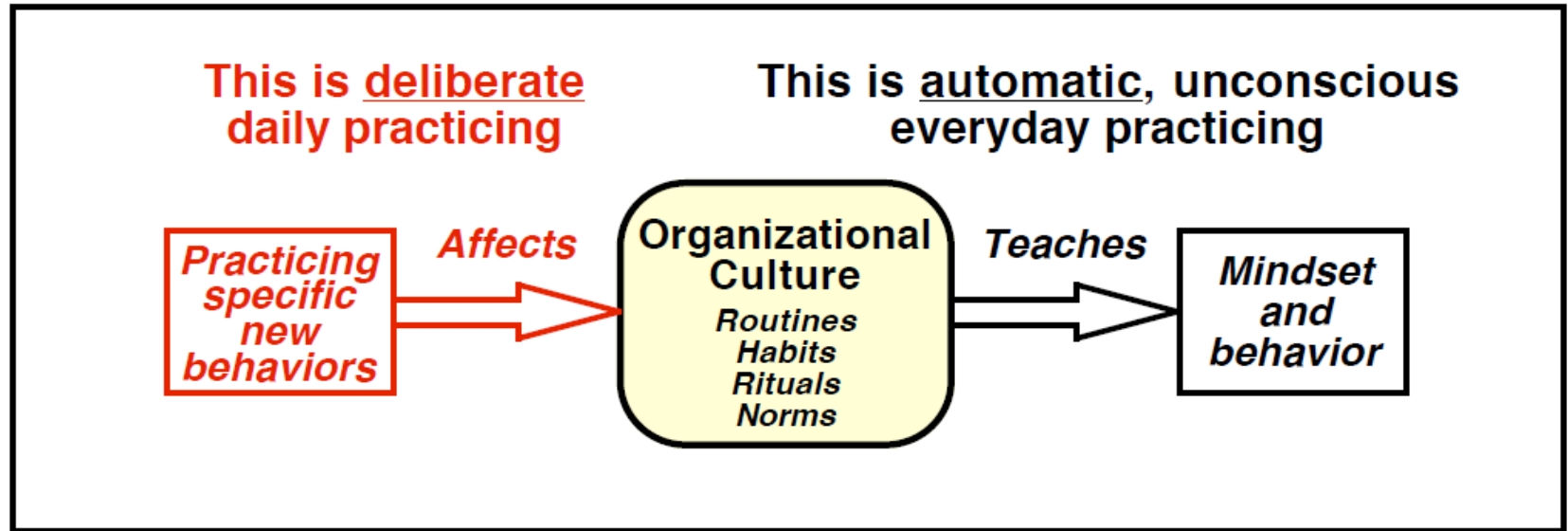


Through practicing, the pattern of a kata becomes second nature - done with little conscious attention.

Examples include riding a bicycle, driving a car, typing. Once you've learned to drive you don't think much about using the car's controls and can focus your attention on the situational aspects of navigating the road.



# KATA CREATES CULTURE



What organizational culture, mindset and behavior do you want?

What do you want your managers to be teaching?

Every manager is automatically a teacher, because they teach & reinforce your organization's prevailing culture.

# Typical Box Scorecard Approach

BOX SCORECARD - 2008							
GROWTH		Jan	Feb	Mar	Apr	May	Jun
Monthly MSI Produced	Plan	5,665,666	5,665,666	7,082,082	5,665,666	5,665,666	7,082,082
	Actual	5,591,197	9,894,404	4,719,064	9,567,324	7,179,096	9,848,916
Trial Response (Days)	Plan	20.3	20.3	20.3	20.3	20.3	20.3
	Actual	22.2	15.2	31.96	19.27	29.50	26.00
Internal Film Purchases	Plan	67.0%	67.0%	67.0%	67.0%	67.0%	67.0%
	Actual	35.9%	68.7%	41.1%	66.7%	73.3%	72.2%
CUSTOMER FOCUSED QUALITY		Jan	Feb	Mar	Apr	May	Jun
Complaint Occurrences/SMM	Plan	2.86	2.86	2.86	2.86	2.86	2.86
	Actual	3.10	4.5	5.1	2.8	2.3	2.8
Return Dollars % of Sales	Plan	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%
	Actual	0.60%	0.82%	1.14%	0.55%	0.18%	0.02%
On-Time Delivery vs Request	Plan	69.0%	69.0%	69.0%	69.0%	69.0%	69.0%
	Actual	55.8%	71.4%	67.6%	65.4%	54.6%	47.7%
On-Time Delivery vs Acknowledge	Plan	96.5%	96.5%	96.5%	96.5%	96.5%	96.5%
	Actual	87.3%	96.6%	95.9%	91.4%	92.9%	84.9%
Lead-Time	Plan	22.5	22.5	22.5	22.5	22.5	22.5
	Actual	35	33	30	29	27	33
ISO 9001 Implementation	Plan	10.00%	20.00%	25.00%	35.00%	45.00%	55.00%
	Actual	10%	12%	28%	29%	29%	35%
ERP Implementation	Plan	Q2	Q2	Q2	Q2	Q2	Q3
	Actual	In progress	20%	50%	55%	55%	60%
OPERATIONAL EXCELLENCE		Jan	Feb	Mar	Apr	May	Jun
Cost/Eq Unit Measure 2006= .075, 2007= 0.105	Plan	0.0860	0.0860	0.0860	0.0860	0.0860	0.0860
	Actual	0.122	0.074	0.152	0.073	0.100	0.099
Effective Feet/Minute (asset adjusted rate)	Plan	197	197	197	197	197	197
	Actual	216	193	169	192	186	175
% Scrap	Plan	10.30%	10.30%	10.30%	10.30%	10.30%	10.30%
	Actual	11.50%	8.45%	11.60%	8.53%	9.91%	13.29%
Changeover Time/Color (Min)	Plan	20.0	20.0	20.0	20.0	20.0	20.0
	Actual	26.1	28.5	33.5	31.3	31.6	32.9
Inventory Days On Hand	Plan	61.0	61.0	61.0	61.0	61.0	61.0
	Actual	71.2	72.5	71.9	70.5	69.4	68.7
SAFETY/ENVIRONMENT		Jan	Feb	Mar	Apr	May	Jun
OSHA Incident Rate	Plan	1.00	1.00	1.00	1.00	1.00	1.00
	Actual	0.00	0.00	0.00	0.00	0.00	0.00
CMS Implementation	Plan	10.00%	20.00%	30.00%	40.00%	50.00%	60.00%
	Actual	0%	0%	10%	10%	10%	10%
ISO 14001 Implementation	Plan	10.00%	20.00%	30.00%	40.00%	50.00%	60.00%
	Actual	20%	20%	30%	40%	45%	55%
PEOPLE		Jan	Feb	Mar	Apr	May	Jun



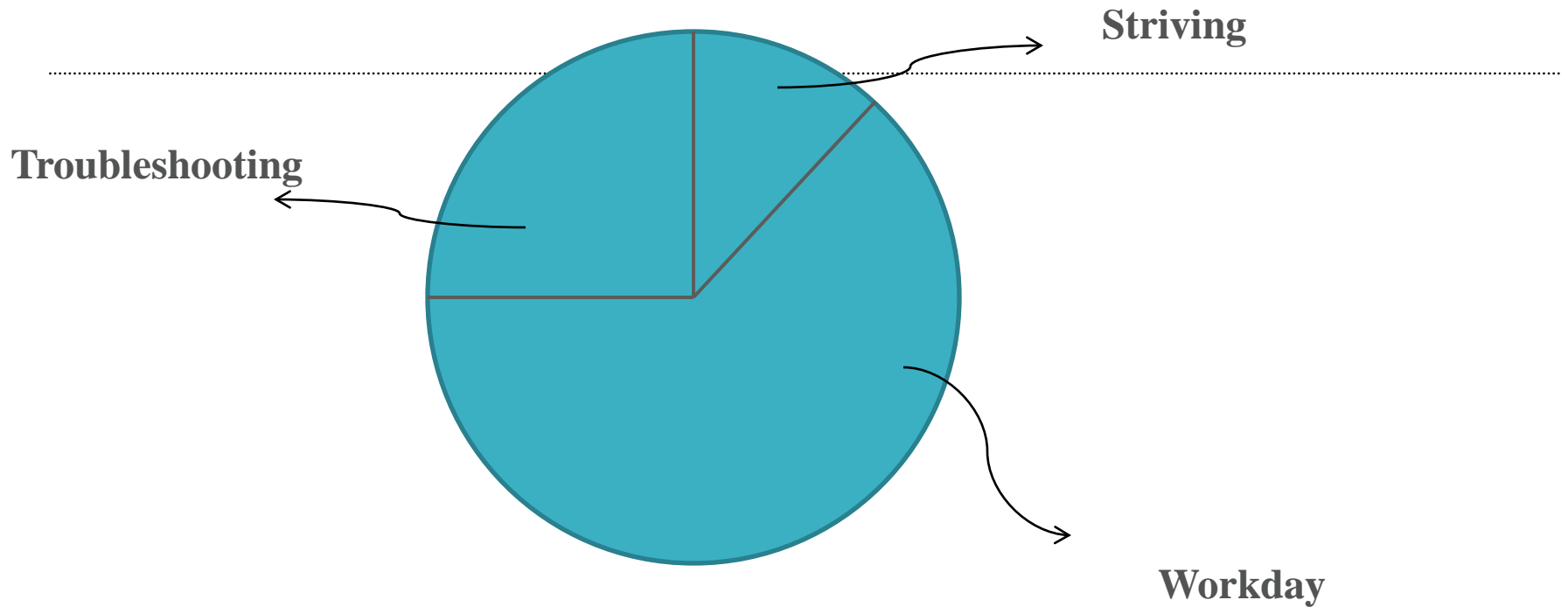
How was that calculated?

84.9% OTD Last Period

Backward looking  
vs.  
Strive for a future reality

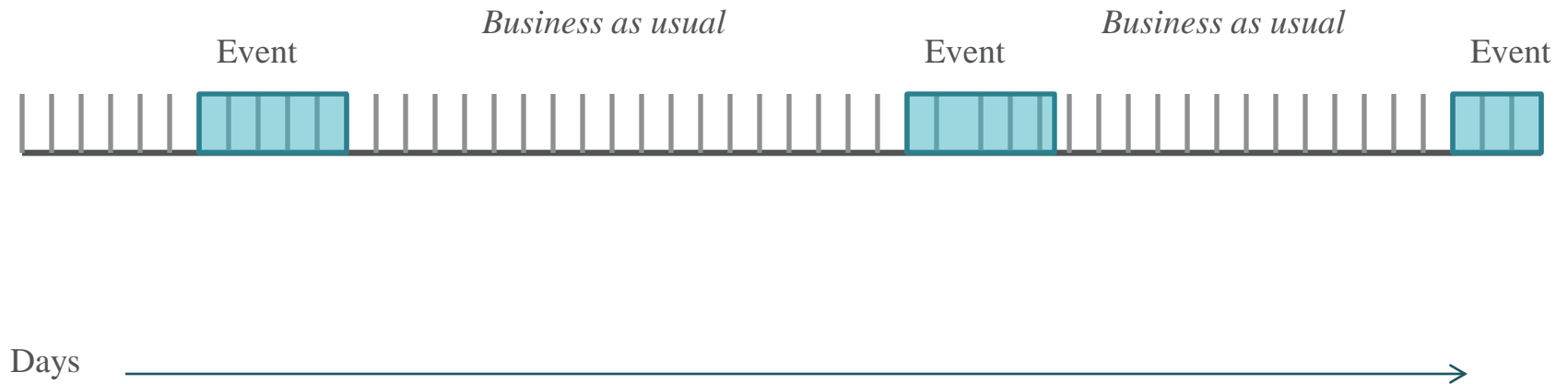


# What are the day to day routines that leaders follow?



- Problem solving is handled in meetings – derailing meeting effectiveness
- Key performance indicators are not often defined
- Leadership discussions lack defined focus – (planned vs. actual performance)
- Standard work is not defined, process metrics unclear
- Focus is often on problem solving and firefighting

# We may often be used to this pattern

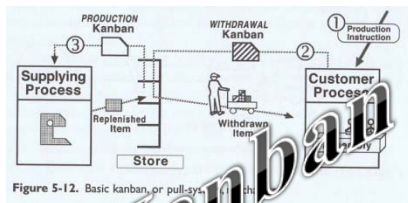


# Lean and Improvement Kata

## Typical Lean

Focus is on implementing tools and techniques.

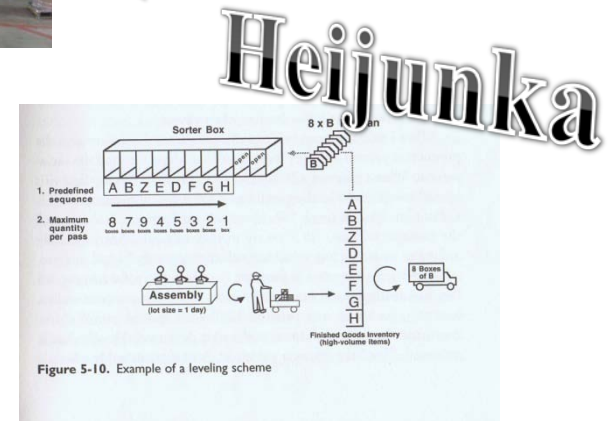
What you see when you go on benchmarking trips.



# Kanban

## Improvement Kata

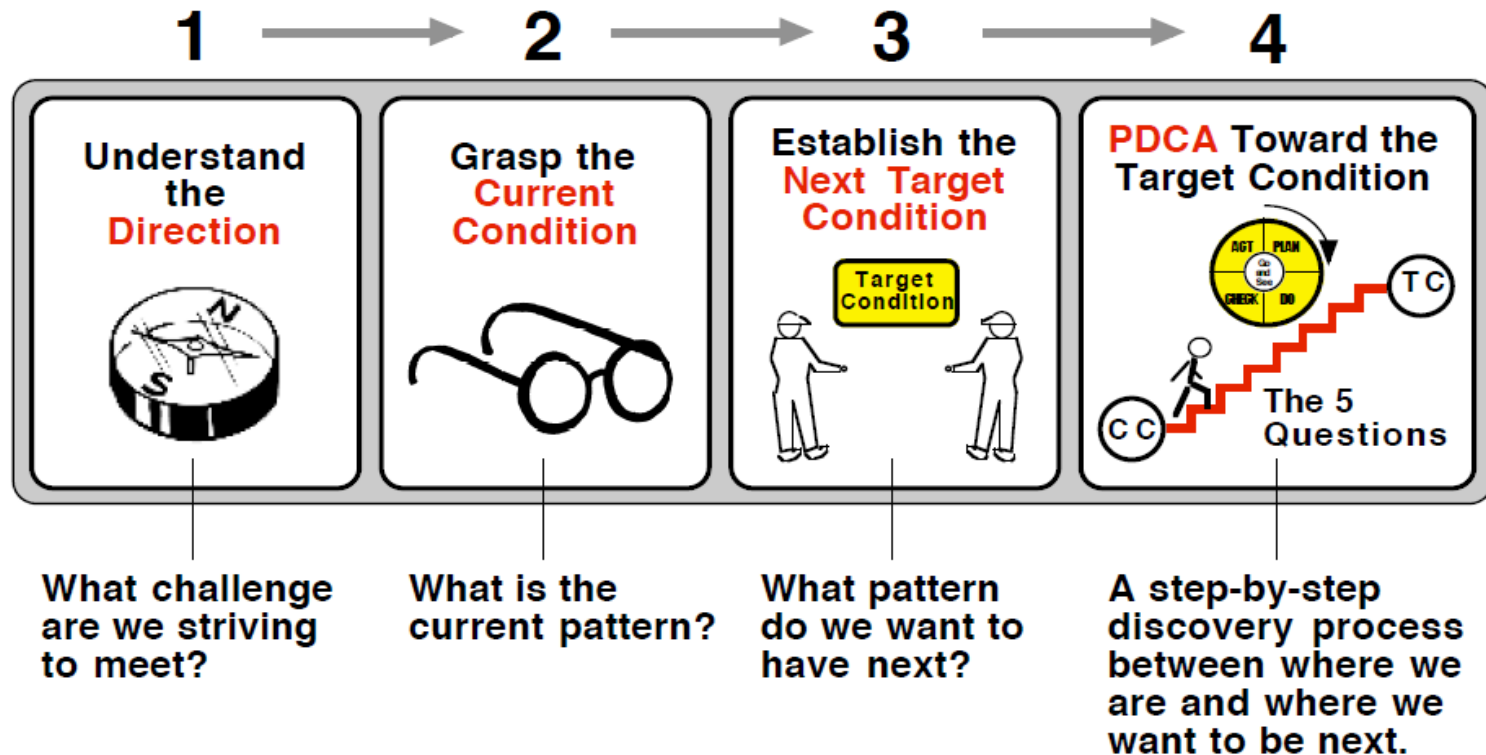
Behaviors or katas of managers and staff in their daily routines.





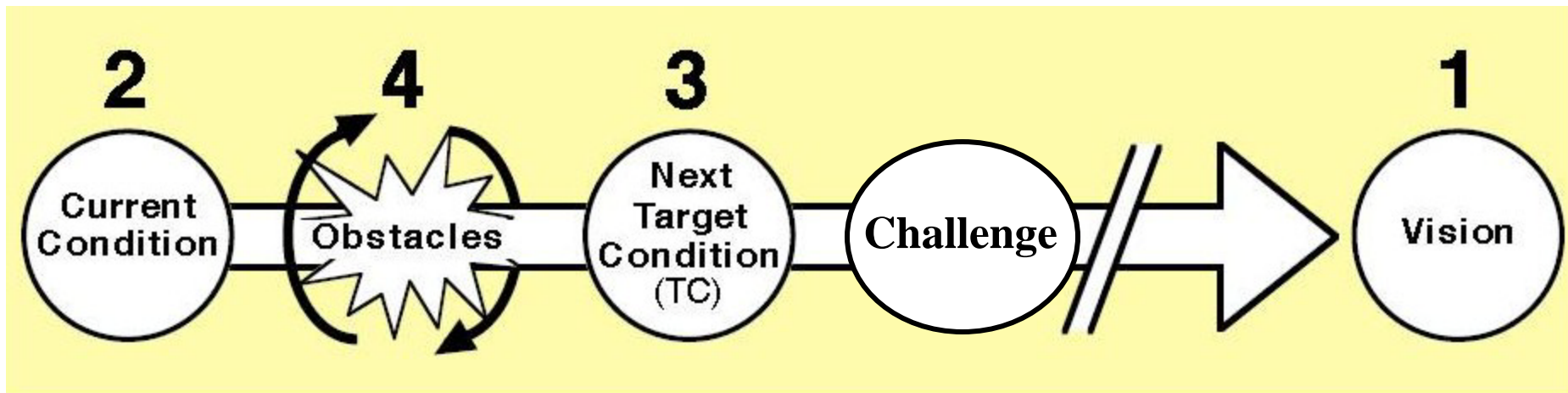
# THE IMPROVEMENT KATA

A routine practiced to make striving and scientific working a daily habit, based on four overall steps:



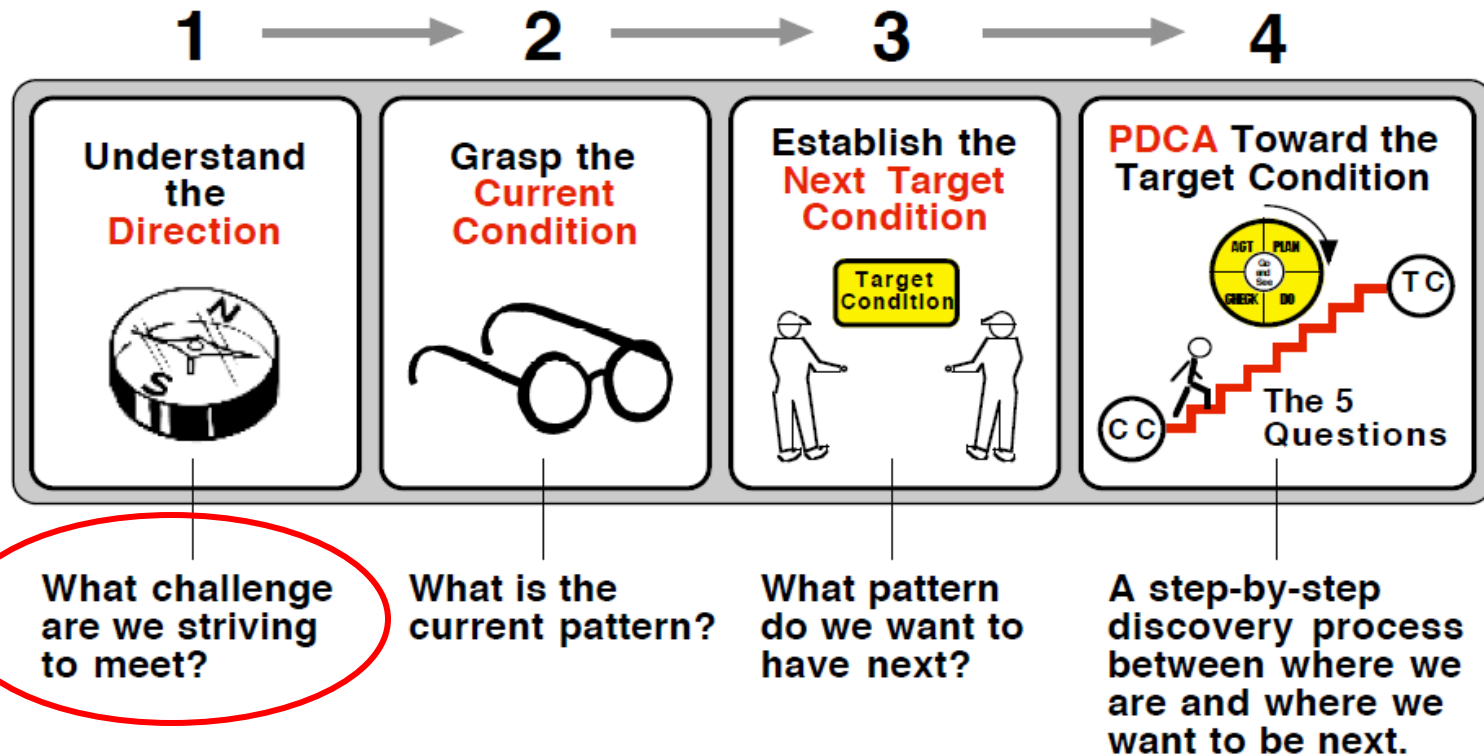
# The Four Routines

## of the Improvement Kata



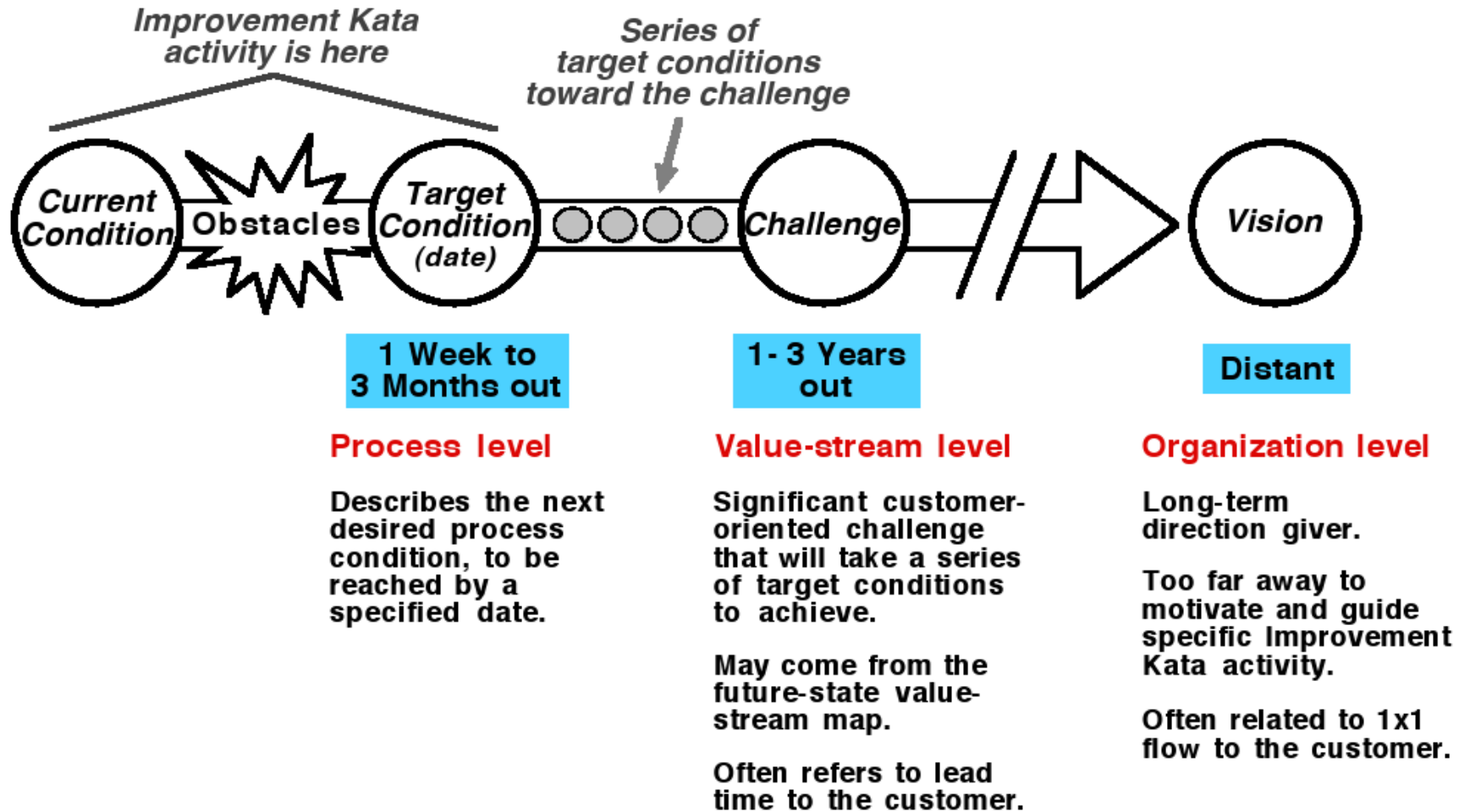
# THE IMPROVEMENT KATA

A routine practiced to make striving and scientific working a daily habit, based on four overall steps:



# A CONNECTED IMPROVEMENT TRAJECTORY

The Improvement Kata pattern is purpose-driven activity



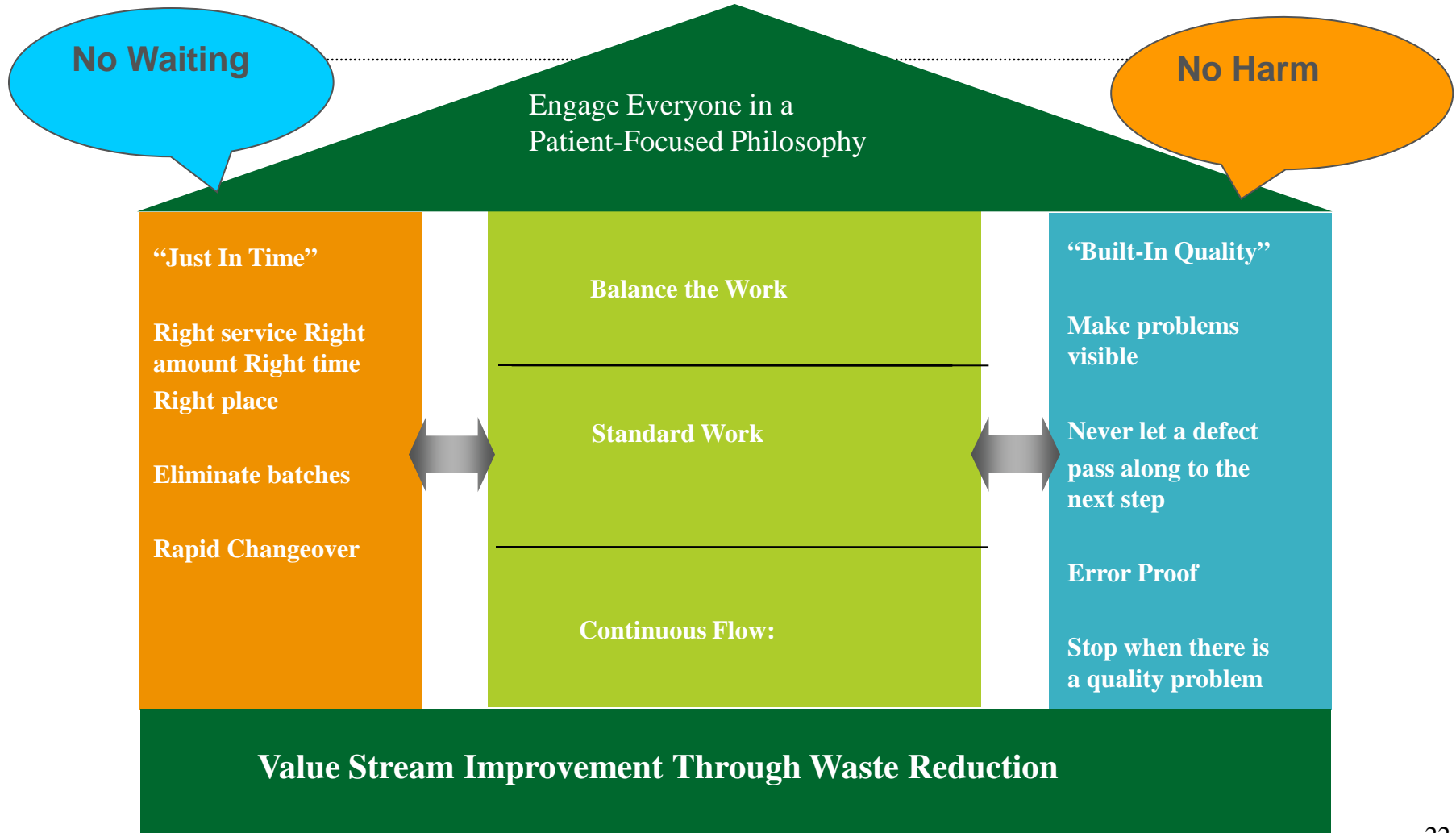
## Our Vision

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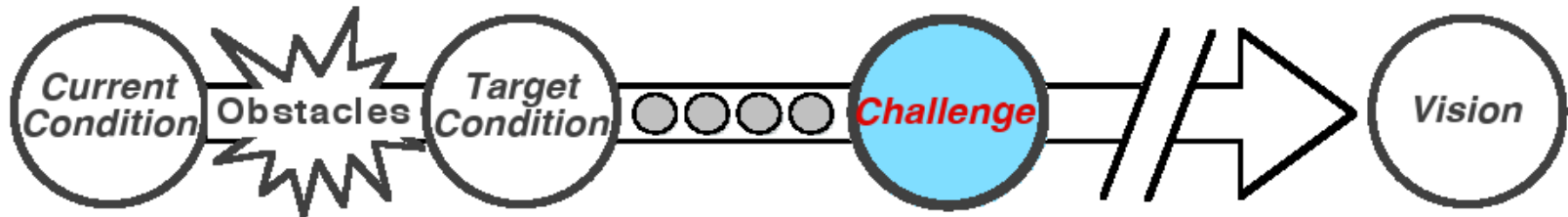
We will be  
the Best Children's Hospital

*Just what does that mean?*

# CPI “System” and Vision – more integrated



# SO A CLOSER AND MORE SPECIFIC CHALLENGE IS OFTEN THE KEY DIRECTION-GIVER



The challenge ensures that process-level improvement efforts have a focus and fit together. Without a challenge...

- The organization is unaligned. Improvement efforts and proposals are evaluated independently, instead of as part of reaching for something. We tend to use short-term cost/benefit analysis to decide what to do, which dangerously keeps us inside our current knowledge threshold.
- We jump from one direction to another in trying avoid obstacles, rather than working through obstacles. We don't use obstacles to guide us to the learning vectors, innovations and important competencies of tomorrow.
- Improvement efforts focus on reacting to daily problems (“troubleshooting”) and trying to maintain the current level of performance, rather than reaching for a next, new level of performance.



## WHAT IS A CHALLENGE?

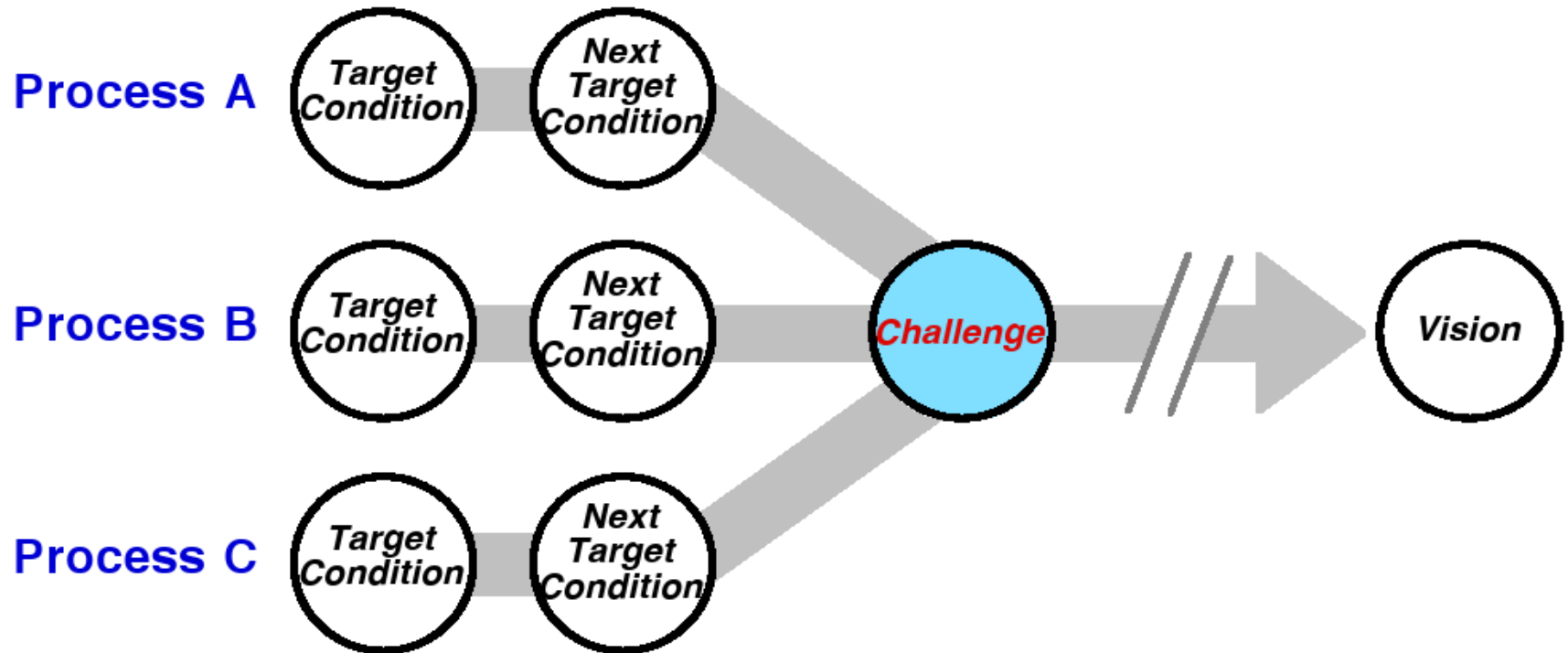
### A challenge is:

- A non-negotiable objective related to better serving the external customer. It's often a lead-time goal.
- Typically at the value-stream level, pertaining to more than one process (see next page).
- Often 1-3 years out.
- Achievable, but we don't know in advance how we will achieve it. You don't need to figure out now how to get there. That's what the rest of the Improvement Kata is for.
- Not easy, but not impossible.
- A step toward to the vision.

You can think of a challenge like a sentence beginning with the words, *"Wouldn't it be great if we could..."*



# A CHALLENGE USUALLY PERTAINS TO MORE THAN ONE PROCESS



# CHALLENGE = A RALLYING POINT

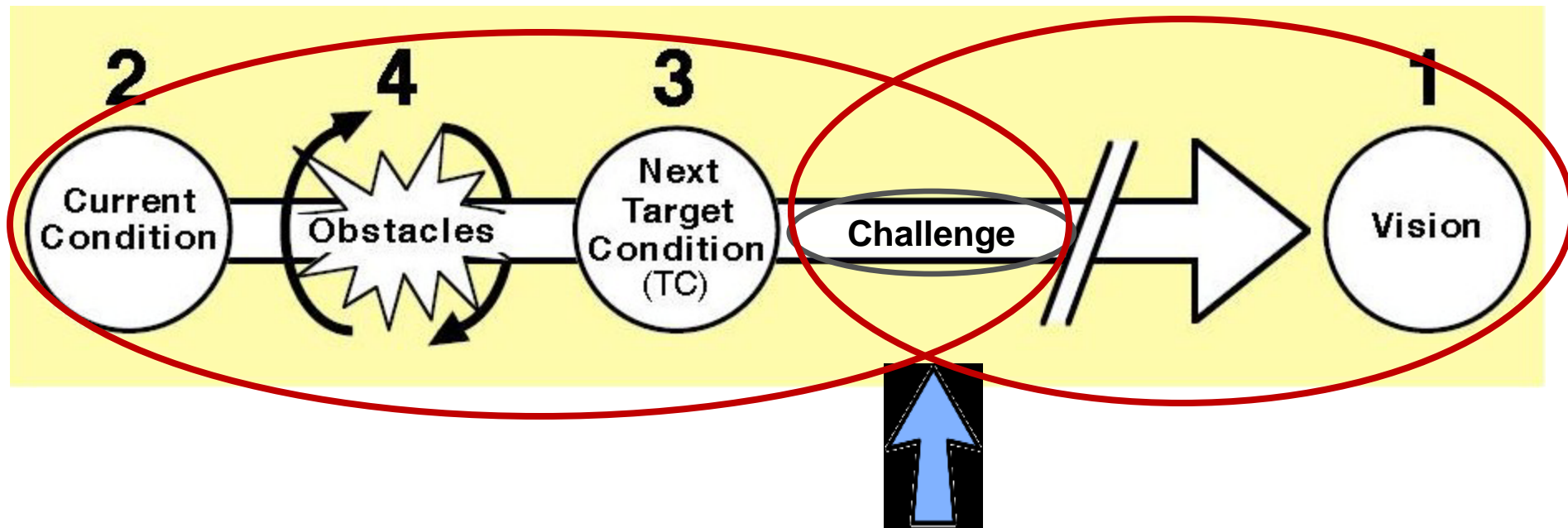
**A challenge should be a description - a statement - of a desired state that people can rally around, not just a number.  
A good challenge focuses our attention and effort.**

<b>Challenge Description</b> <i>Wouldn't it be great if we could...</i>	<b>Example Rallying Statement</b>
<ul style="list-style-type: none"><li>• <i>“...machine parts directly in the 1x1 assembly flow”</i></li><li>• <i>“...paint parts directly in the 1x1 assembly flow”</i></li><li>• <i>“...build one customer kitchen at a time and put it right on the truck”</i></li><li>• <i>“...have lab-test results done in 45 minutes, with no errors”</i></li><li>• <i>“...take only 7 days from new patient referral to evaluation”</i></li><li>• <i>“...assemble the day ordered, and ship the next day”</i></li></ul>	<ul style="list-style-type: none"><li>• <i>“Machine to assemble”</i></li><li>• <i>“Paint to assemble”</i></li><li>• <i>“Build to truck, kitchen at a time”</i></li><li>• <i>“Take 45”</i></li><li>• <i>“Just a week”</i></li><li>• <i>“Same day, next day”</i></li></ul>

# THE IMPROVEMENT KATA INVOLVES MANAGEMENT AND LEADERSHIP

*Teaching the improvement kata is managements job*

*Establishing direction is part of leadership*



The challenge is a link between process-level improvement and organization strategy



# Let's practice

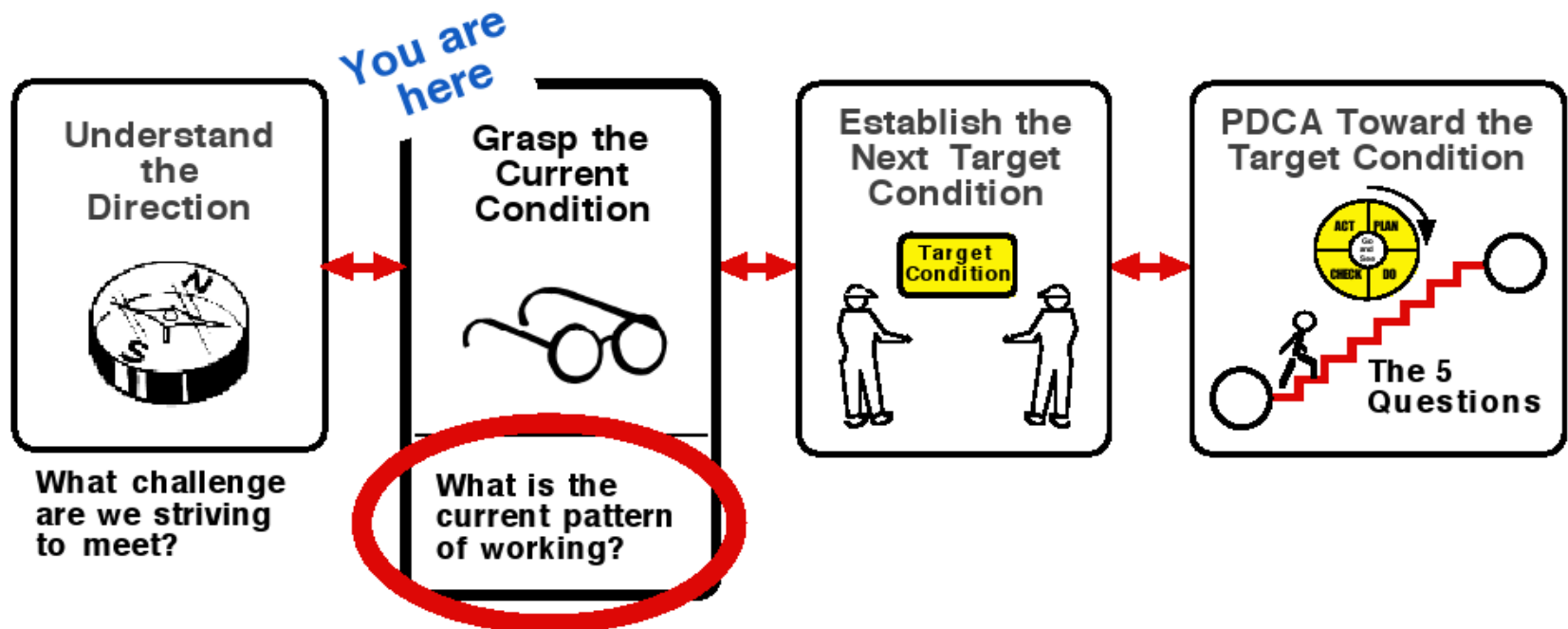
What is the CHALLENGE:

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Wouldn't it be great if.....

*We all could write clearly and consistently with both hands any time we wanted to.*

# ORIENTATION





# THE PURPOSE OF THIS PROCESS ANALYSIS

The purpose of the Toyota Kata process analysis is **not** to uncover problems, wastes or potential improvements

Analyzing the current condition is done:

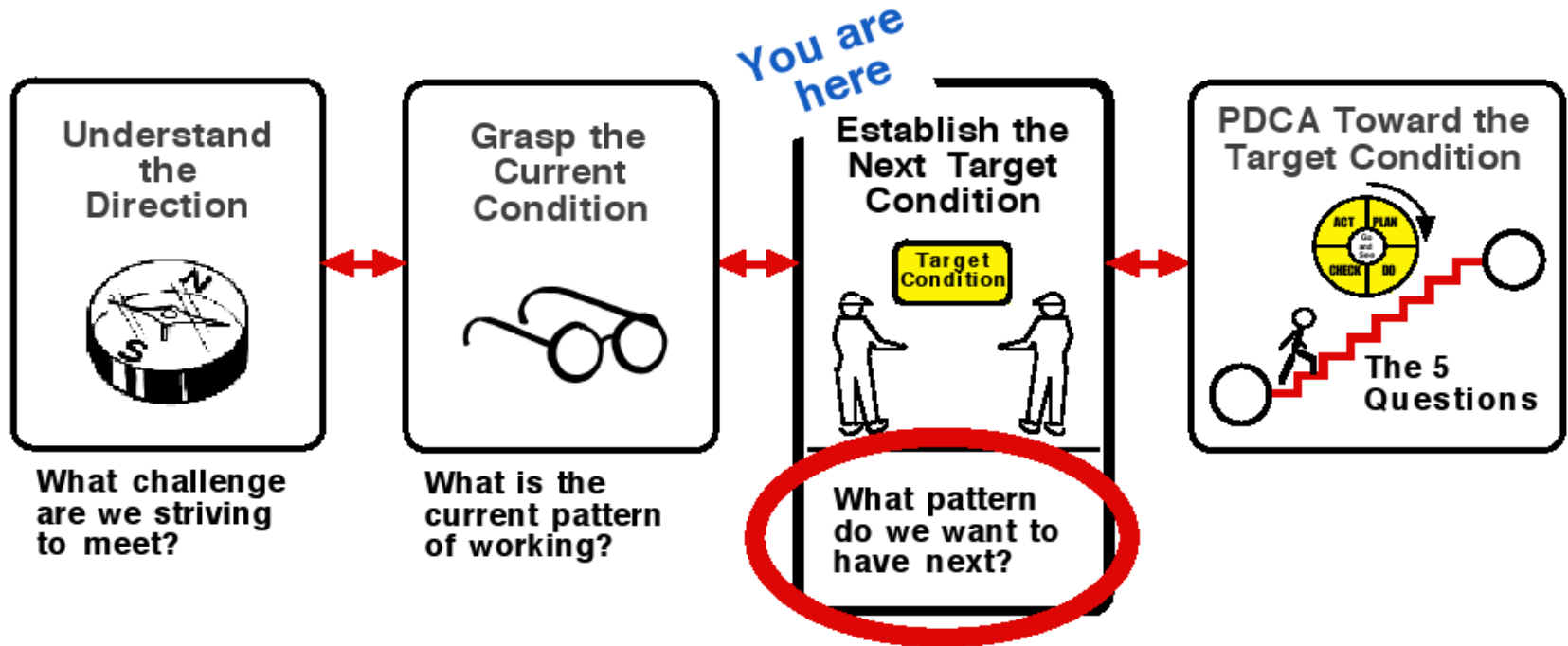
- To obtain facts and data
- To look for the current pattern of operation

# Process analysis components

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1. What are the units of work, and how long do they take?
  1. Steps, sequence, time...
2. What are the typical patterns of work? - *diagram*
  - How is the process currently performing? - *data*
3. Do we have any machine constraints?
4. How many people are necessary for the process?
5. How is the process performing over time? - *data*

# ORIENTATION

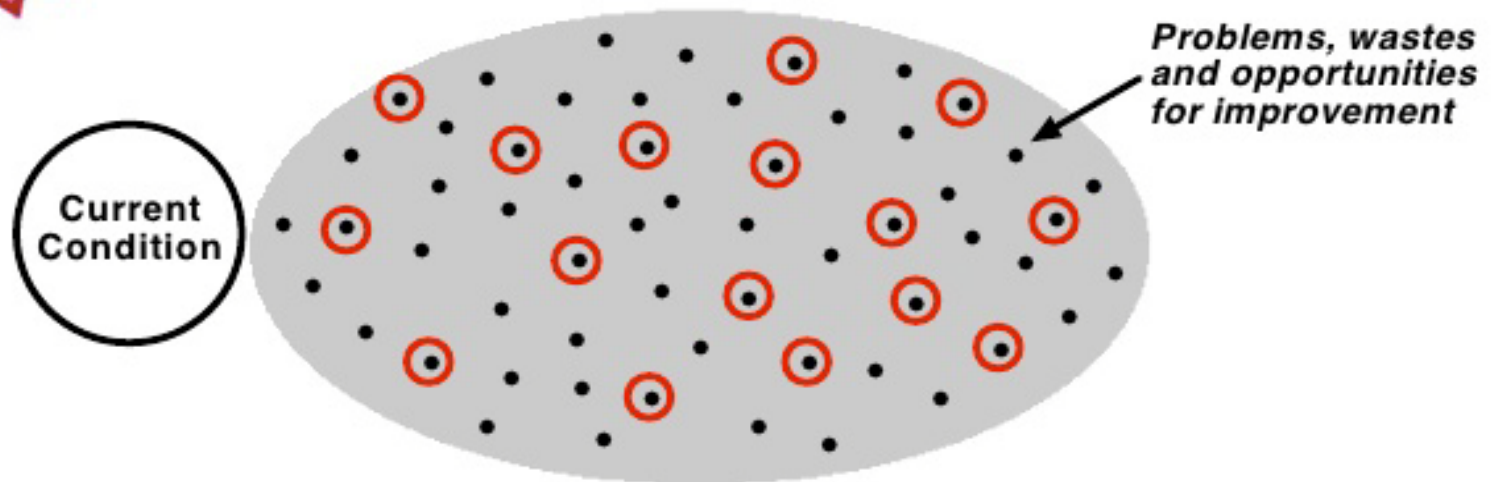






# HOW DO WE TEND TO TRY TO IMPROVE?

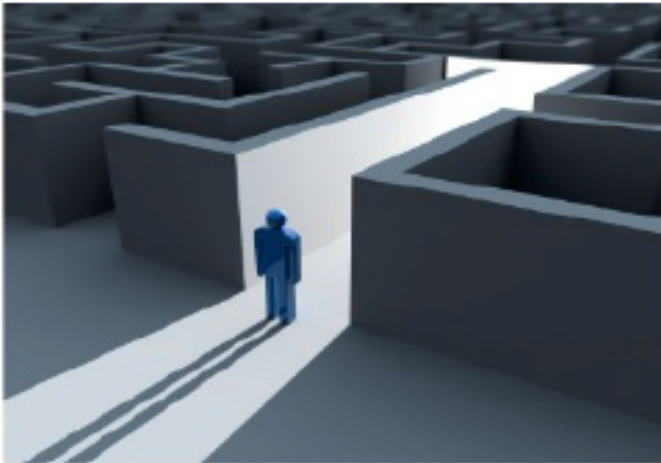
We hunt for wastes or react to problems, and try to eliminate them



This scattershot approach may not achieve meaningful improvement that moves the organization forward.

It misspends our limited capacity for making improvements.

We don't learn much, because we're not experimenting.



## THE IMPROVEMENT KATA IS A DIFFERENT APPROACH

With the improvement kata you work iteratively toward a target condition, on the way to a vision, learning along the way. You work on those things that you discover you *need* to work on to reach the next target condition.

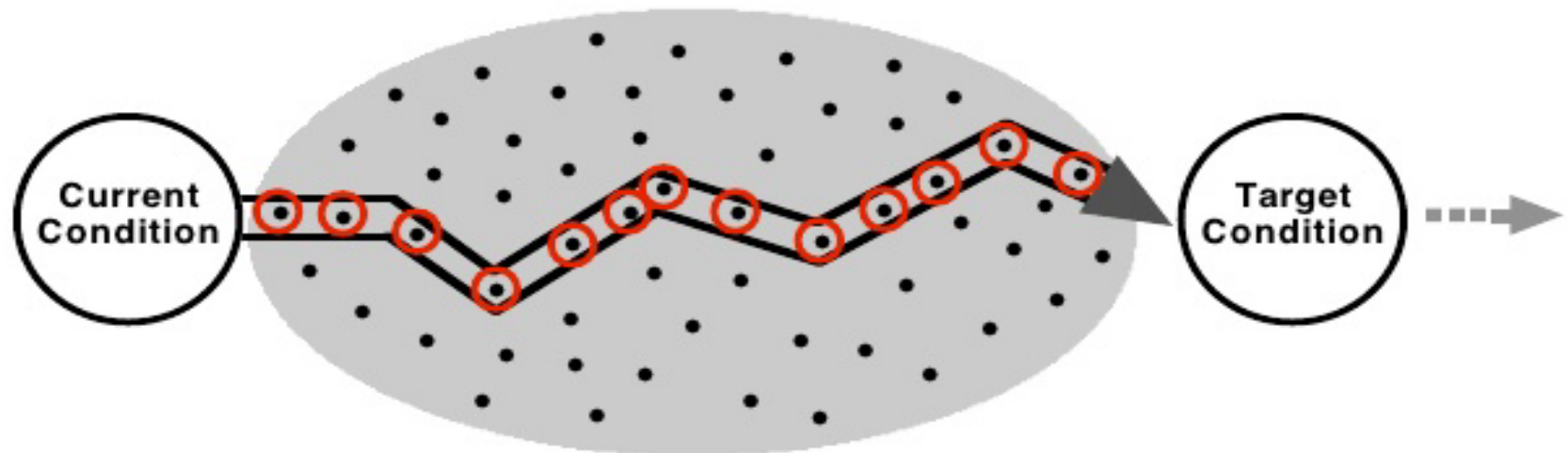


Diagram by Mr. Jeff Uitenbroek

# WHAT IS A TARGET CONDITION?

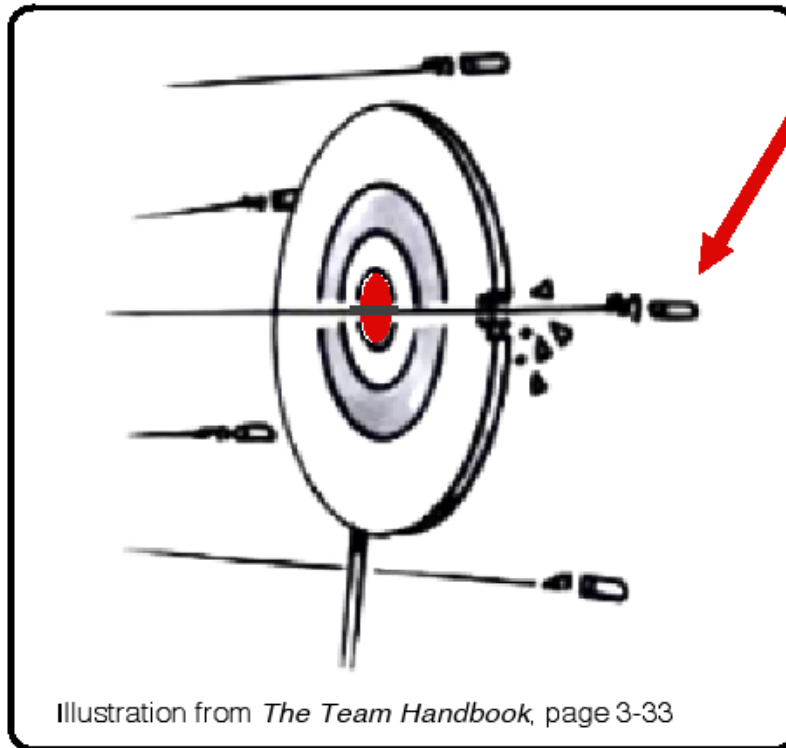
## **A target condition is:**

- A nearer-term desired state that is defined in more detail than the challenge.
- Typically at the individual process level.
- A step toward the challenge.
- Includes a specified target date, typically 1 week to 3 months out.

The challenge comes from leadership. A target condition is developed by the learner in dialog with the coach and the process team.

These are two different things developed by two different groups.

A target condition is like an overall hypothesis you test against in order to reveal key obstacles, using this question: *“What is now preventing us from working according to the target pattern?”*



In contrast, PDCA without a target condition is like trying to learn from randomness



You will often hit your “threshold of knowledge” and try to find THE answer

# 'BEYOND YOUR KNOWLEDGE THRESHOLD' MEANS YOU DON'T ALREADY KNOW HOW YOU WILL REACH IT

A target condition that you can already or quickly see how to reach - one that involves little trial and error - is not a good target condition. A good target condition requires experimentation and learning to reach it.

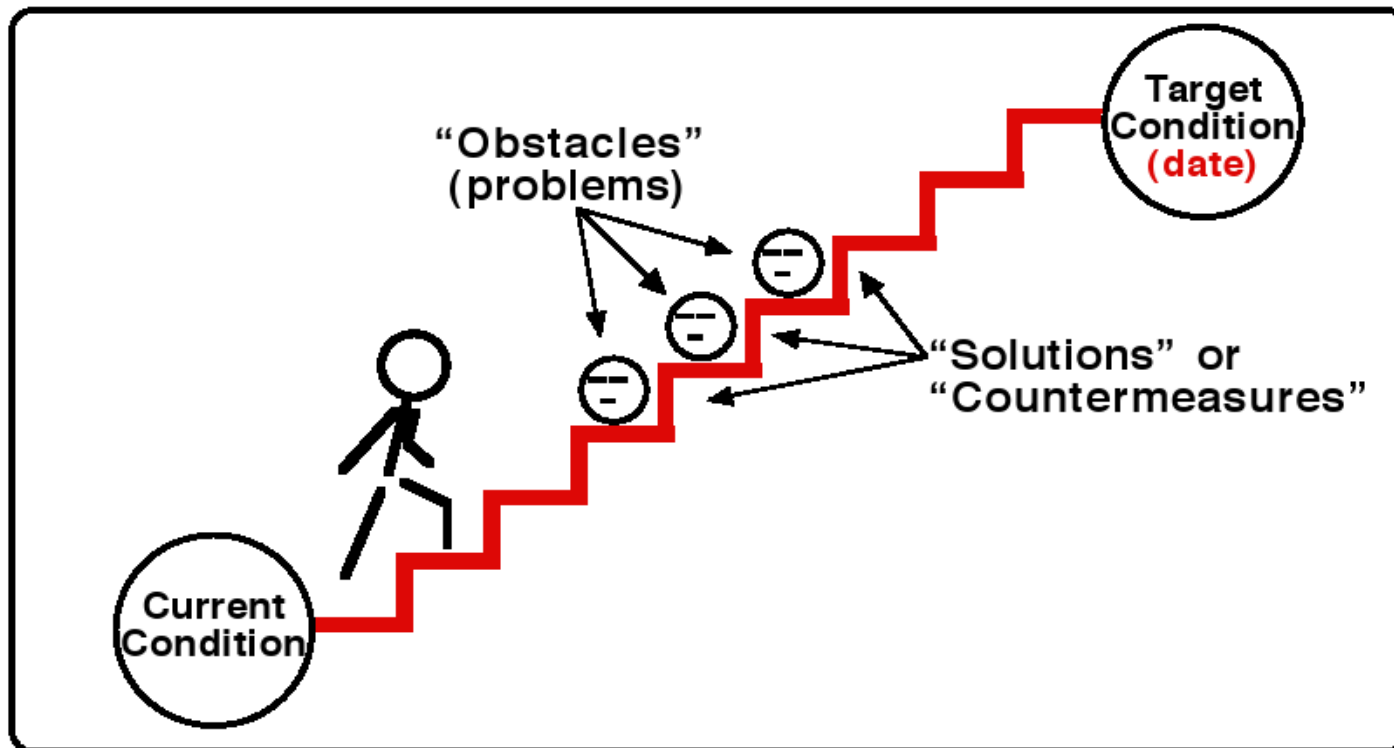


*The greater danger for most of us lies not in setting our aim too high and falling short; but in setting our aim too low, and achieving our mark.*

~ Michelangelo

# TERMINOLOGY

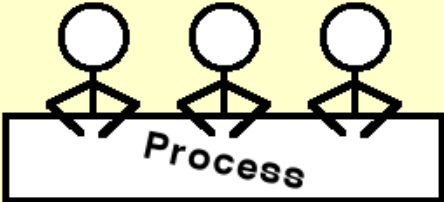
- A **target condition** is not a **solution**. It's something you are striving to reach by a specified date
- What you do to overcome **obstacles** (problems) on the way to a target condition are **solutions** or **countermeasures**
- **Adaptiveness** happens as you work step-by-step toward the target condition and adjust based on what you learn along the way





# TARGET CONDITION versus TARGET

Learn the difference!

<p><b>TARGET CONDITION</b></p> <p>A learning goal. A description of circumstances.</p>	<p><b>TARGET</b></p> <p>A performance goal. An outcome, result or score.</p>
 <p>Description of a desired pattern of how something should operate</p>	<p>Examples:</p> <ul style="list-style-type: none"> <li>Inventory level</li> <li>Inventory turns</li> <li>Lead time</li> <li>Output per hour</li> <li>Cost, Labor cost</li> <li>Quality level</li> <li>Productivity</li> <li>etc.</li> </ul>
<p>This is actionable</p> <p>We predict the process operating in this pattern will generate.....</p>	<p>Cannot be achieved directly</p> <p>.....this outcome / result</p>

A *target* is simply an outcome, while a *target condition* is a description of circumstances -- of an operating pattern -- that you predict will result in the outcome

# EXAMPLES

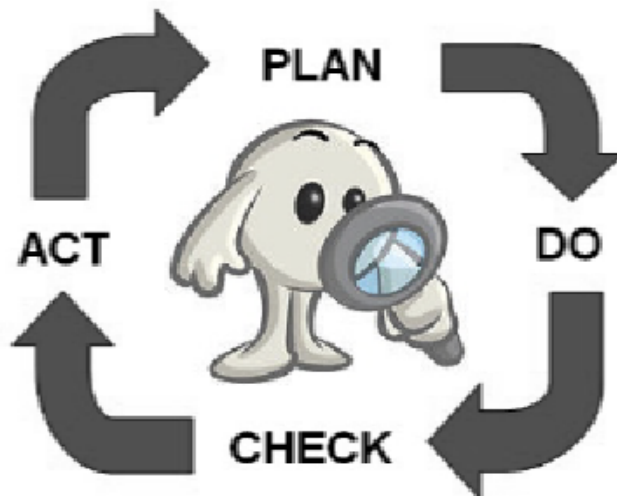
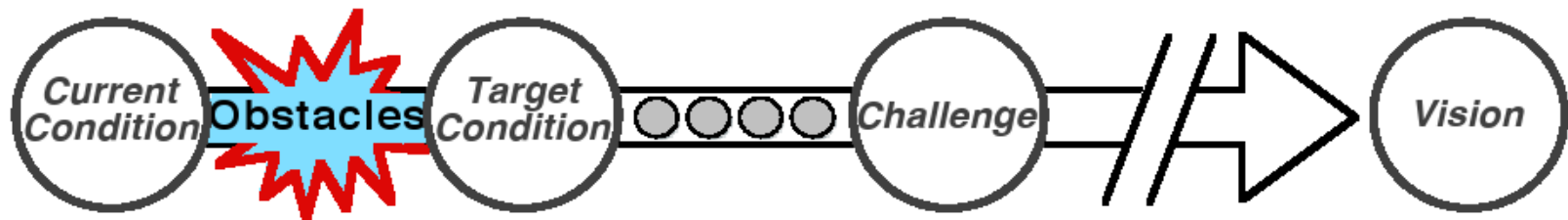
<p><b>TARGET CONDITION</b></p> <p>A learning goal. A discription of circumstances.</p>	<p><b>TARGET</b></p> <p>A performance goal. An outcome, result or score.</p>
<p><b>Desired pattern for how basketball team plays</b></p> <p><b>Desired pattern of how math and science are taught.</b></p> <p><b>Desired pattern of student study habits.</b></p>	<p><b>10% more shots made</b></p> <p><b>All 6th grade students in our school passing the standardized test for math and science</b></p>
<p>This is actionable</p> <p>We predict the process operating in this pattern will generate.....</p>	<p>Cannot be achieved directly</p> <p>.....this outcome / result</p>



# Target conditions consist of

- 
- Defined steps, sequence, timing
  - Process characteristics (*examples*)
    - Number of workers
    - Regulatory requirements
    - Shifts, etc..
  - Process metrics
  - Outcome metrics

# OBSTACLES TO THE TARGET CONDITION ARE WHERE DAILY RAPID PDCA CYCLES HAPPEN



Here we've reached the level in the organization where the process of evolution takes place.

# Let's Practice

Challenge:

*We could write clearly and consistently with both hands  
any time we wanted to*

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## Current Condition

- Describe your current capabilities in writing and drawing

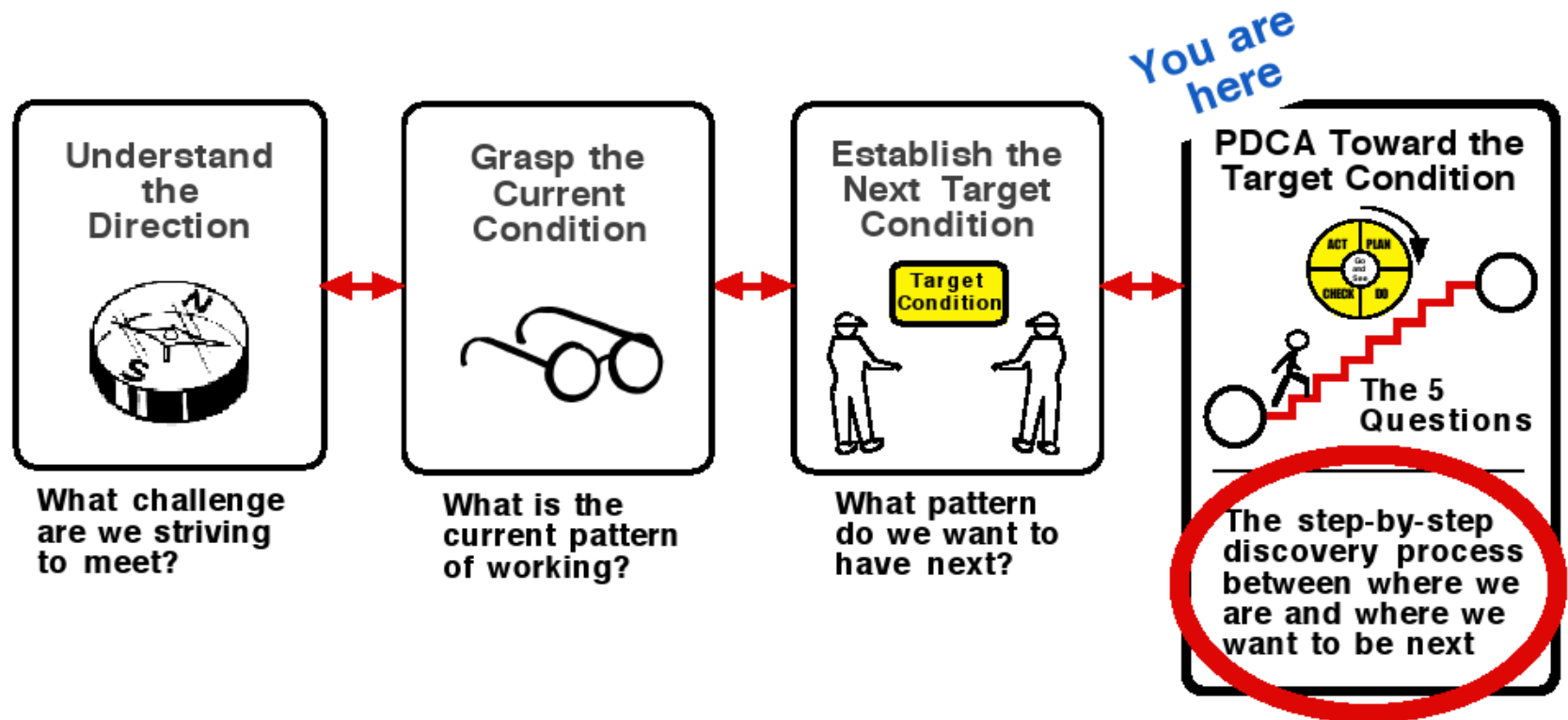
## Target Condition – by next

Tuesday

- Words are written individually, in the same order in 10 seconds
- Anyone can read the words
- Loops and letters are smooth and even
- Star shape has five points that are of equal shape



# ORIENTATION

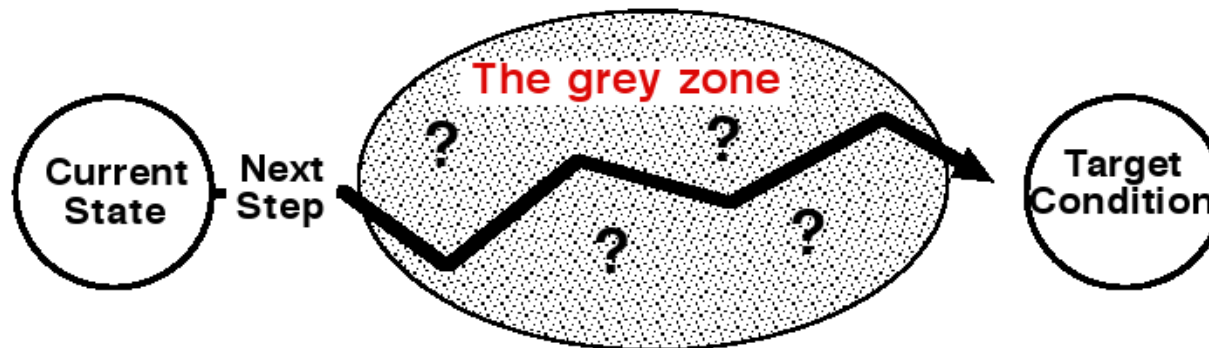




## Most Important: ASSUME THE PATH IS UNCLEAR

We make a plan and intend to execute the plan. But reality is neither linear nor predictable enough for this alone to be an effective means for achieving our target conditions.

With complex systems we cannot plan or aim so well up front as to hit the target condition. Regardless of how well you planned, the path to achieving the target condition is somewhat of a grey zone.



***A target condition is a setup for experimenting  
at the threshold of knowledge***

# TIME TO PUT ON YOUR SCIENTIST HAT





# WHAT IS SCIENTIFIC THINKING?

## Learning along the way to the target condition

Because the path to a target condition cannot be predicted with exactness, we have to find that path by experimenting like a scientist. With each insight a scientist adjusts his/her course to take advantage of what has been learned.

What we  
may think  
*scientific* is

- Quantification and precision
- Objective and certain
- Reveals what is there

**Eg:** *We have made the right plan*



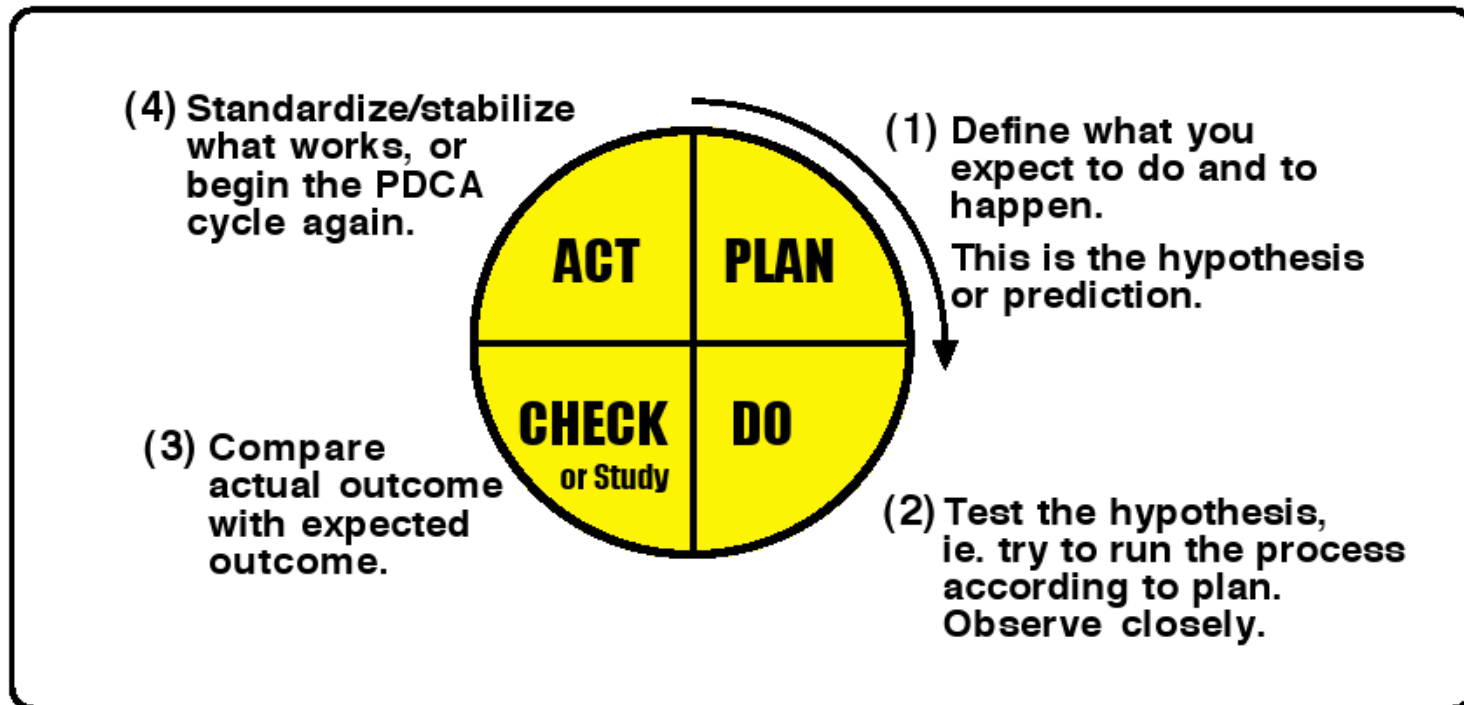
What  
*scientific*  
really is

- Involves uncertainty, ambiguity & incompleteness
- Never free from error
- A process of discovery, via systematic trial and error

**Eg:** *Our plan is a hypothesis*



# THIS IS THE WELL-KNOWN PDCA CYCLE



**But let's take a closer look at how it works...**





# 'SURPRISE' IS HOW PDCA HELPS YOU LEARN AND IMPROVE



Learning happens when reality differs from expectation

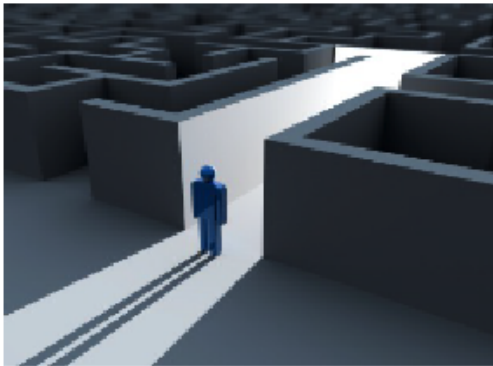


Unexpected results (surprises) lead to valuable learning experiences. The Improvement Kata mindset seeks to use these lessons.

- A. The purpose of PDCA is to generate surprises and thus opportunities for learning & progress toward the target condition.
- B. Using small failures as learning opportunities also develops the improvement expertise of the learner.

# WATCH FOR THE KNOWLEDGE THRESHOLD

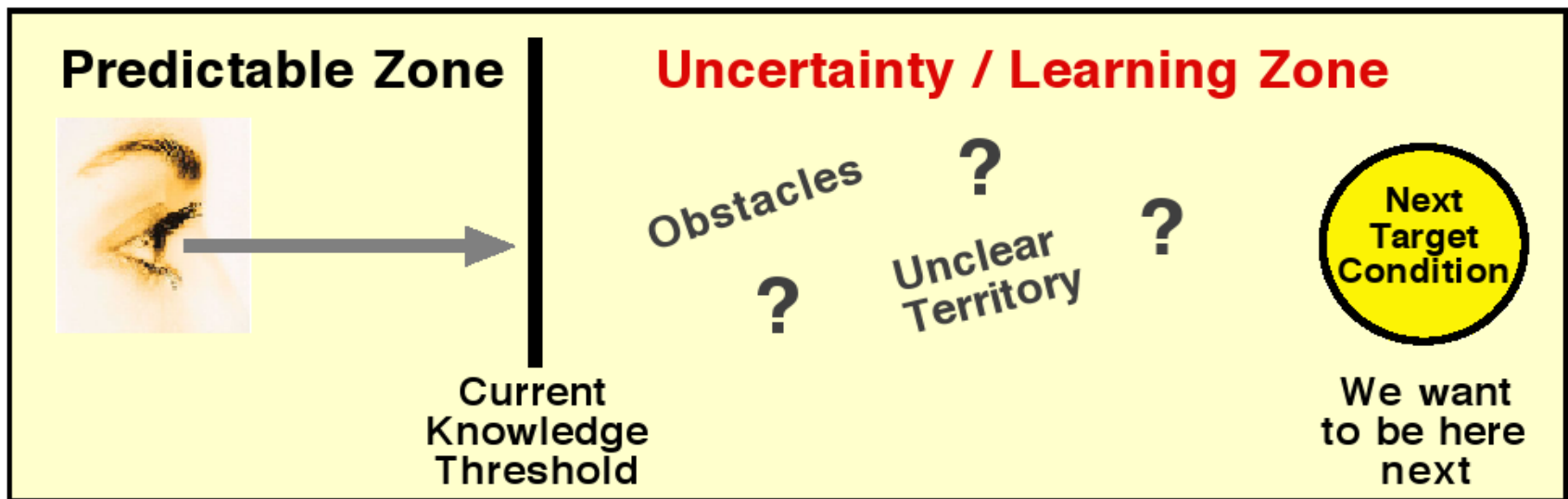
This is where you experiment with PDCA



The **threshold of knowledge** is the point at which we have no data and start guessing.

There's always a knowledge threshold.

When something other than what we expect happens, the knowledge threshold becomes visible. When a plan, step, belief or hypothesis turns out to be incorrect, you're at the *learning edge*.





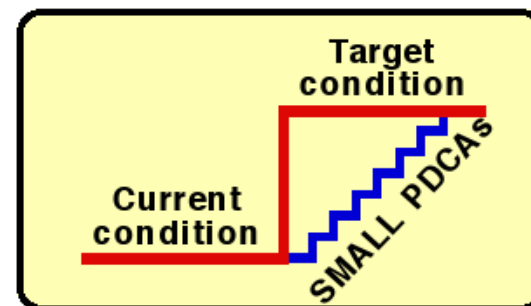
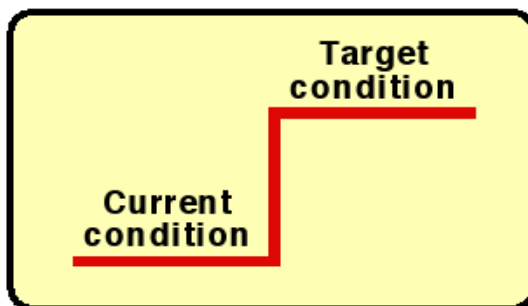
# SMALL PDCA CYCLES = MORE LEARNING

When should you 'check'?



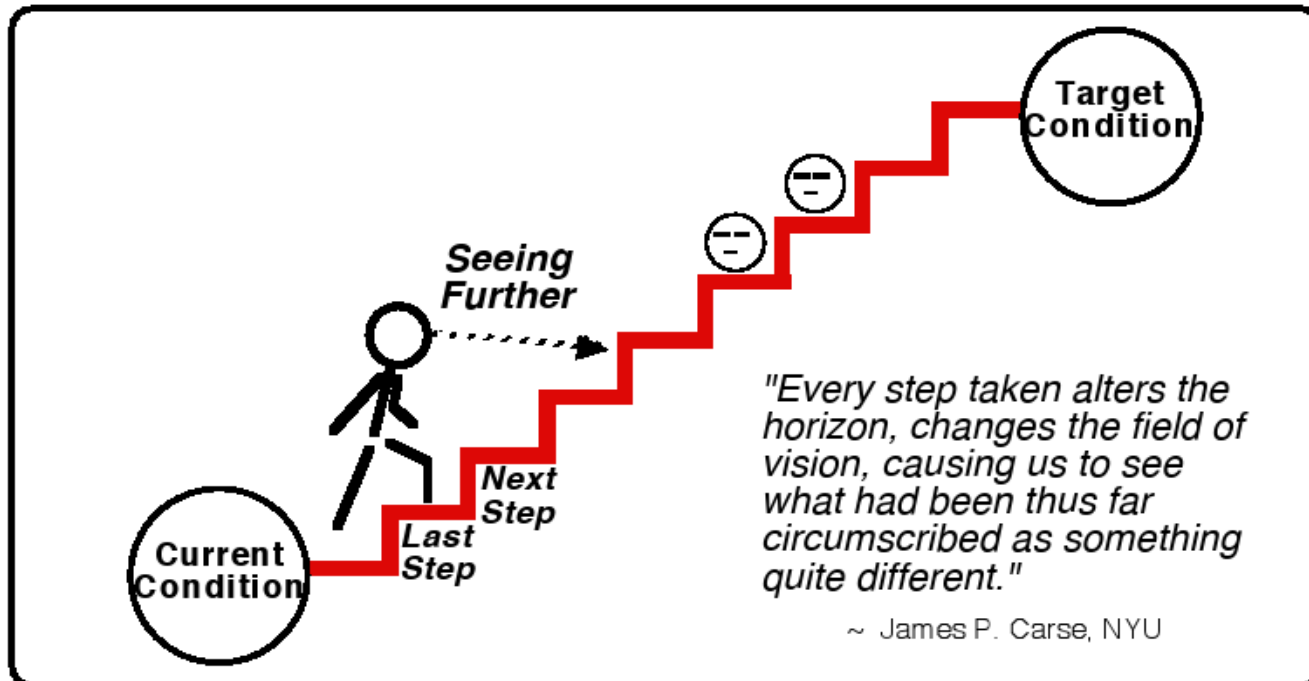
Old Way
<ul style="list-style-type: none"><li>• Check infrequently (eg: weekly)</li><li>• Big PDCA cycles</li></ul>

Improvement-Kata Way
<ul style="list-style-type: none"><li>• Check after each step</li><li>• Small PDCA cycles (short &amp; frequent)</li></ul>

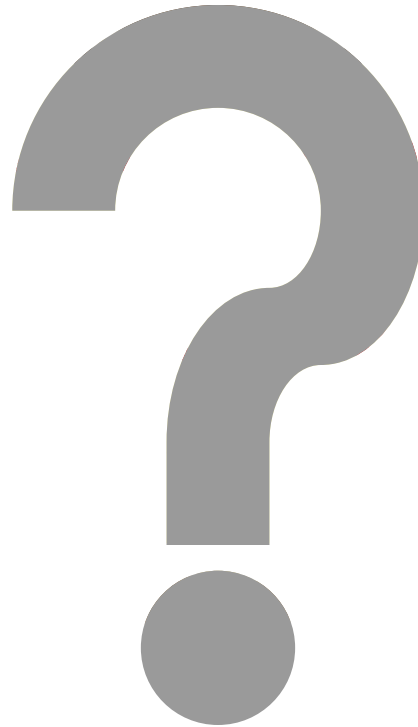


# When you experiment TRY NOT TO THINK TOO FAR AHEAD

You don't actually know what the result of the next step will be. So concentrate on the next step, because what you learn from that may influence the step after that.



# AND KEEP THIS QUESTION IN MIND



## Target condition

- Words and shapes are written individually, in the same order in 10 seconds
- Anyone can read the words
- Loops and letters are smooth and even
- Star shape has five points that are of equal shape

What is preventing us from being able to reach our target condition?

# What are the obstacles that are preventing you from reaching your target condition?

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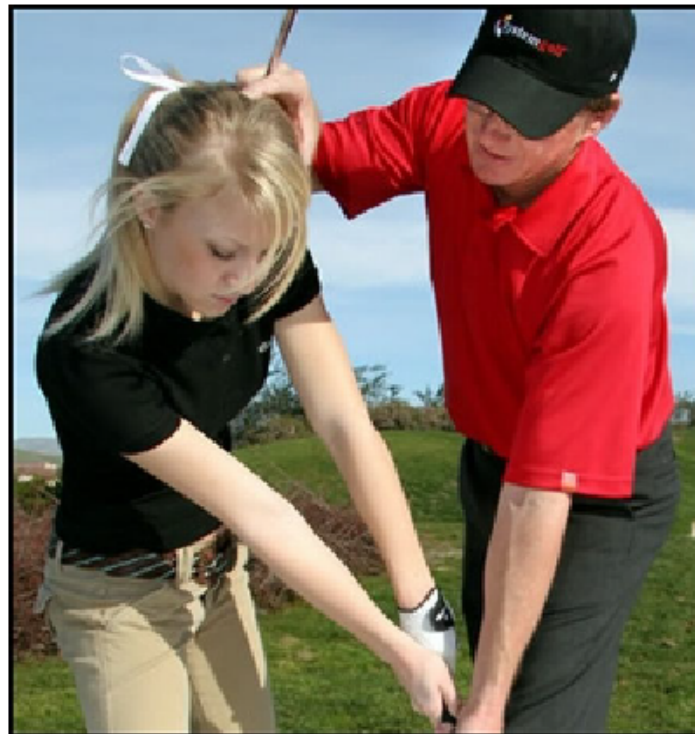
Make a list on the back side of your paper....

## Teaching the Improvement Kata

# COACHING CYCLES USING THE FIVE TOYOTA KATA QUESTIONS

**Practice  
this  
Routine**

**1** **2**  
**3**




**4**


**5**

# ORIENTATION


Understand the Direction




Grasp the Current Condition



Establish the Next Target Condition



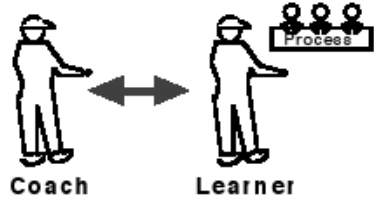
PDCA Toward the Target Condition



The 5 Questions

You are here

Conduct Coaching Cycles



Coach      Learner

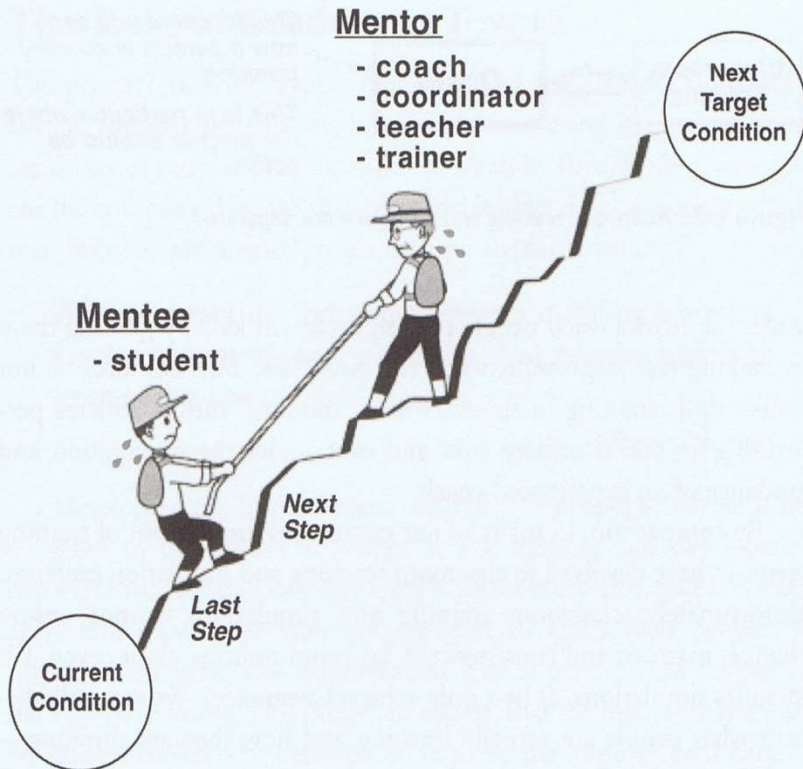
Teaching the improvement kata through coached practice



# Coaching

It's about developing people, not solving the problem or overcoming the obstacle

Let the learner make a mistake, we learn best on the edge of our knowledge.



**Figure 8-2.** Toyota's classic depiction of its mentor/mentee approach  
Note: Labels and current- and target-condition circles were added by the author.



# THE INTENTION OF A COACHING CYCLE IS NOT AUDIT AND COMPLIANCE

**It's this...**



**Teaching the learner how to play  
the continuous improvement game**

**...not this**





# THE TWO FUNDAMENTAL ROUTINES AT THE CORE OF COACHING CYCLES

## The 5-Question Coaching Dialog

COACHING KATA

### The Five Questions

- 1) What is the target condition?
- 2) What is the actual condition now?
- 3) What obstacles do you think are preventing you from reaching the target condition?  
-----*(Turn Card Over)*----->
- What obstacle are you addressing now?
- 4) What is your next step? (next PDCA / experiment) What do you expect?
- 5) When can we go and see what we have learned from taking that step?

**Five-Question Card  
Used by the Coach**

## Rapid PDCA Cycles

PDCA CYCLES RECORD				
Date:		Process Metric		
Process:				
Step	What do you expect?	Coaching Cycle EXPERIMENT	Result Observe closely	What We Learned

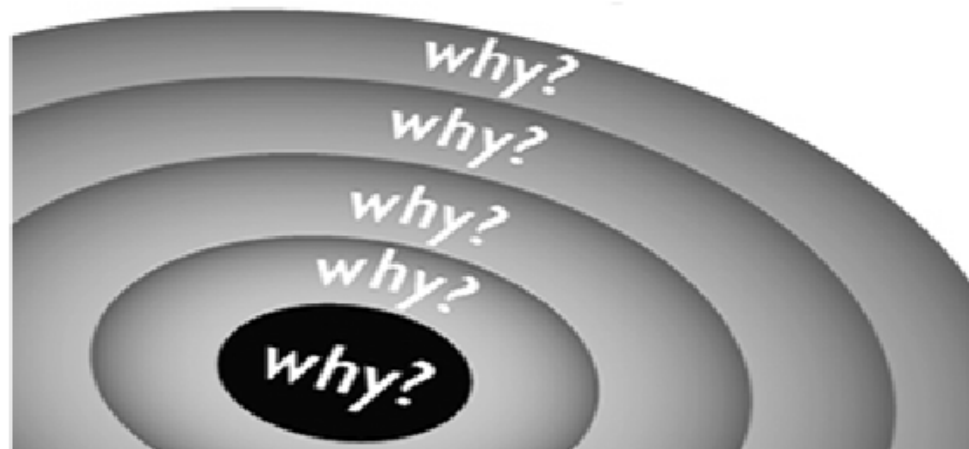
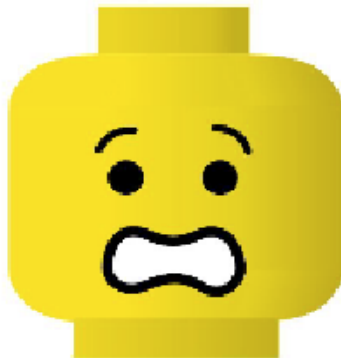
**PDCA Cycles Record  
Used by the Learner**

## BE CAREFUL ASKING *WHY*?

The Lean community promotes “*asking why five times*” as a means to help get to the root cause of a problem. This is fine if you are asking the question of yourself.

However, when a coach asks a learner “*why*” it can easily seem confrontational rather than constructive, especially if “*why*” is asked repeatedly.

You’re asking questions to help you see the learner’s current thinking pattern, and for that purpose it may be better to use questions beginning with the word “*what*”.



**In the spirit of the Improvement Kata, think of it as five *experiments* rather than five “whys”**

# Let's practice

## Coaching Meeting #1

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Pick a partner – one person is the Coach, one is the Learner

Learner - Review your list of obstacles

Learner - Identify *ONE* obstacle that is preventing you from reaching the target condition

Coach – Review the coaching card questions in order with the Learner

Switch roles

# It all about linking improvement with learning....

## Improvement Kata

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- Routines performed by a mentee (learner) while being coached by a mentor

## Coaching Kata

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- Scheduled and structured coaching routine performed at the “Gemba”



Coaching occurs outside of routine scheduled sessions as the threshold of the mentee knowledge and ability has to be extended

# Key Foundational Principles:

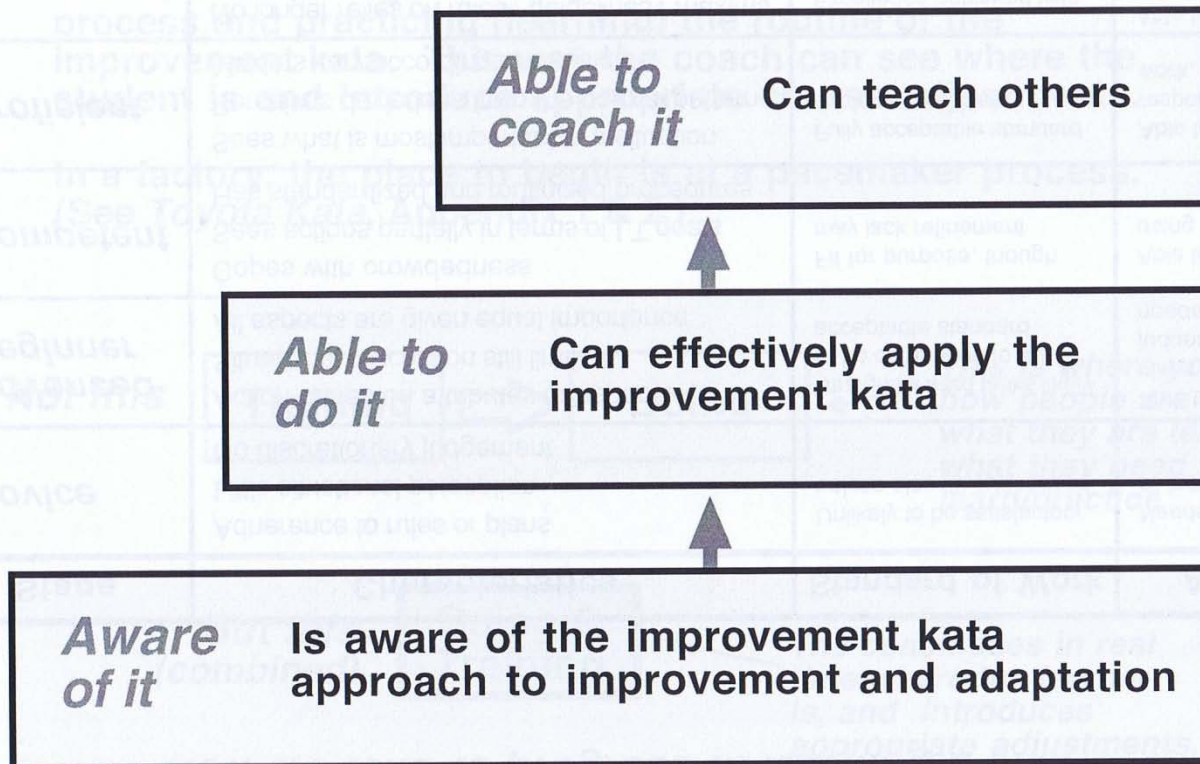
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Not an implementation process, as in a tool of lean. It is a way of changing behavior and mindset.

Establishing new thought and behavior takes practice and coaching.

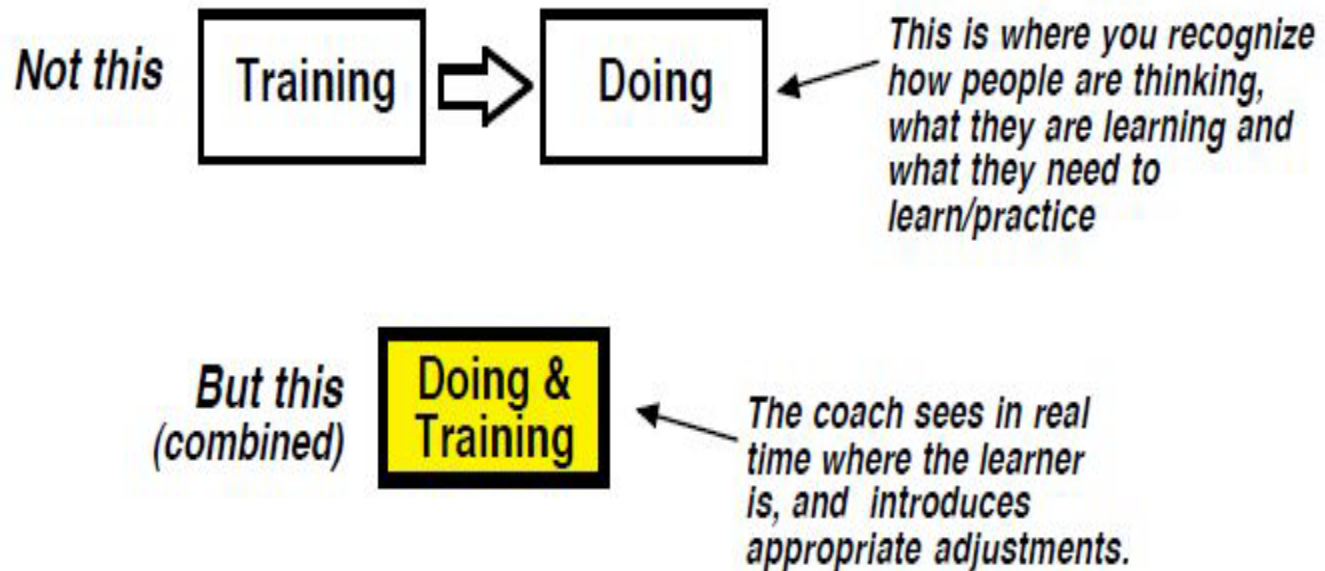
We should always be asking - 'is the process performing as expected...(at the Target Condition)'?

# Toyota Kata Learning Progression





# Combine training and doing!



# In Conclusion

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**Toyota Kata** is a management system focused on process and people development

Managers coach others to drive continuous improvement and the achievement of challenging objectives in all aspects of an organization.

It is a system of leadership practice which drives **adaptive** thought and behavior.

**What questions do you have?**

