



MANY CAPS
CONSULTING

Making Things. Better.

Building a Continuous Improvement Program with Toyota Kata

"One Experiment at a Time"



Webinar



Craig Thornton

Chief Marketing Officer, Mango Limited

+64 29 377 5444

craig@mangolive.com

- @mangolive
- LinkedIn
- Blog: www.mangolive.com



Presenters..



Many Cap Consulting Ltd is a Christchurch NZ based Consultancy Company specializing in Operational Excellence, Quality Management Systems & Organisational Health.

We help organisations with

- Lean / 6 Sigma / Continuous Improvement Programs
- Productivity / Throughput Improvement / TOC
- ISO9001 Quality Systems
- Business Strategy & implementation

We are also a NZTE Regional Business Partner & on the Callaghan Innovation Lean consultant Directory



John Watt

Owner, Many Caps Consulting Limited

+64 21 164 9739

john@manycaps.com

www.manycaps.com

The Overview

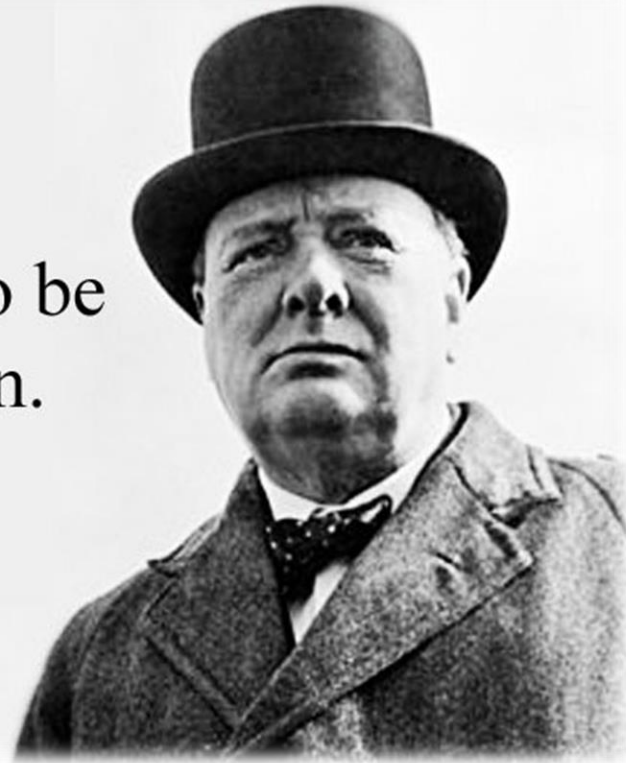
The aim of this webinar is to show you that the best way to run a continuous improvement program is with the habit of small step improvements.

- **How Your Brain Processes Change**
- **The Standard Improvement Approach**
- **The benefit of 1% improvement**
- **What is Toyota Kata**
- **Why you want to experiment**
- **The Improvement kata**
- **The Coaching Kata**
- **Using it in your organisation**

“

To improve is to change; to be
perfect is to change often.

Winston Churchill



What is Continuous Improvement?

“People Centered Problem Solving”

The important point to remember however is that it's only a true improvement if it takes you towards your goal & that Continuous Improvement is, Change.

Most of Your Brain Hates Change

Main Function
Emotions and memory

Emotional Brain
(Limbic System, Mammalian Brain)
150 millions years old

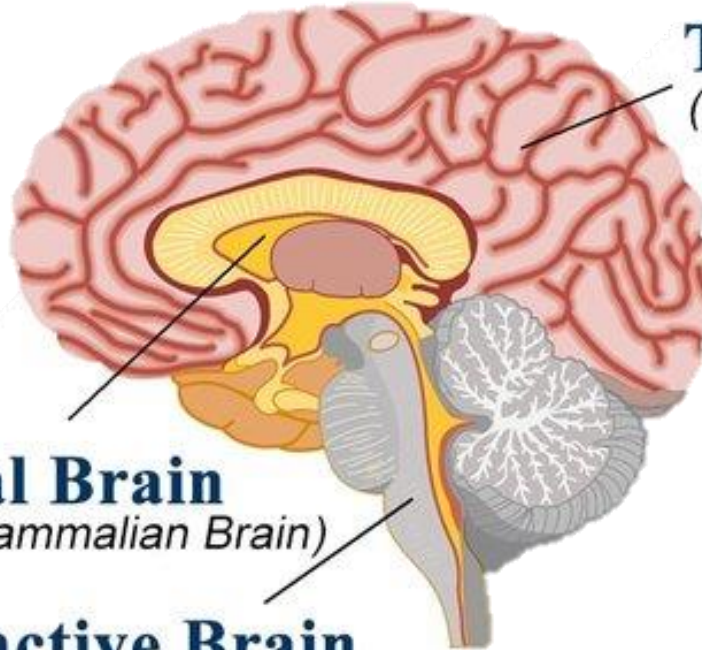
Instinctive Brain
(Reptilian Brain, Old Brain)
250 millions years old

Main Function
keeping you alive, safe from sabre-toothed tigers

Main Function
Higher level thinking and learning

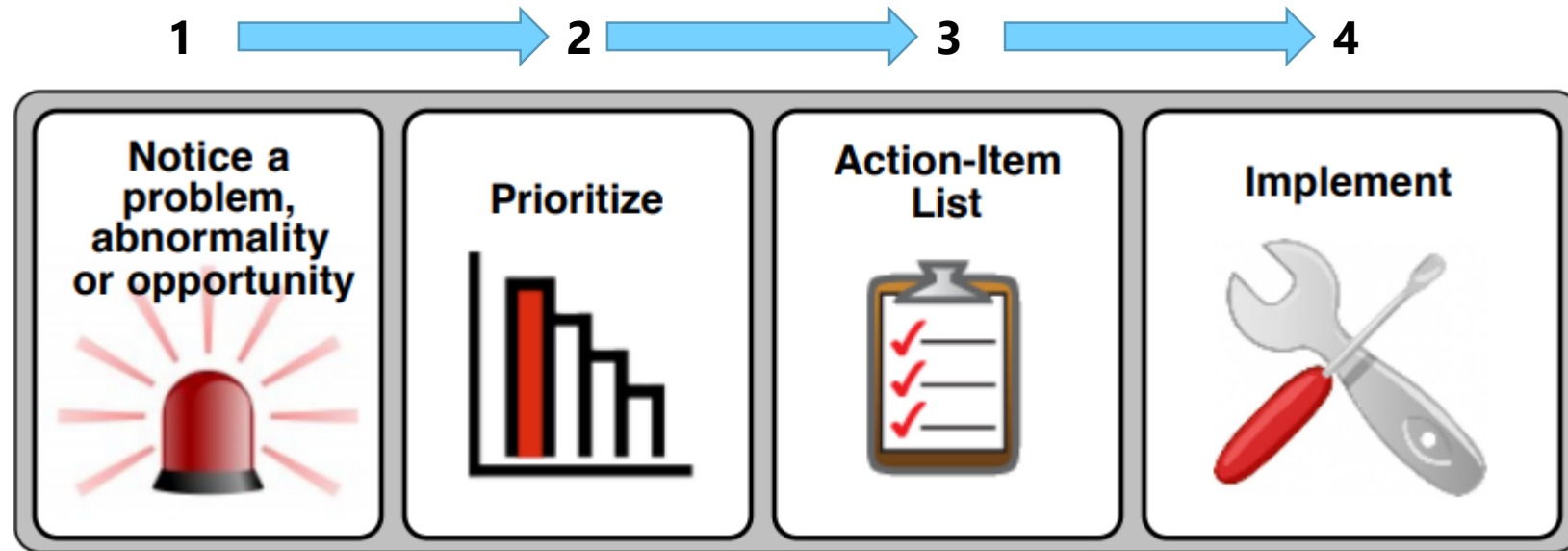
Thinking Brain
(Neocortex, New Brain)

*2-3 millions years old
(and really became roughly the brain
we have about 200,000 years ago)*



The Standard Improvement Approach

This is called Troubleshooting!



This reflects the “NEED TO DO SOMETHING Approach”!

Improvement Wackamole

What you are really doing is playing wackamole with your improvement system and hoping that the changes you are going to make get the big bang result you want.



Big Bang Vs Small Steps – the Benefit of 1%

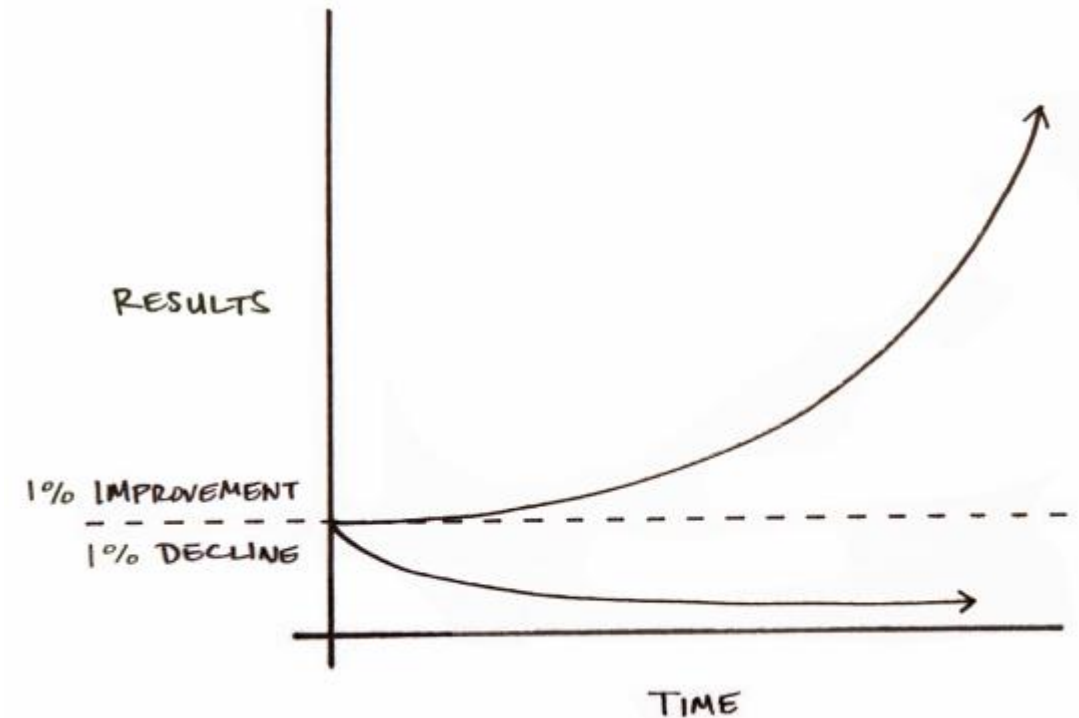
If we said we wanted a 30% improvement in something that seems like a big deal.

What if we said we only want a 1% improvement but do it every day?

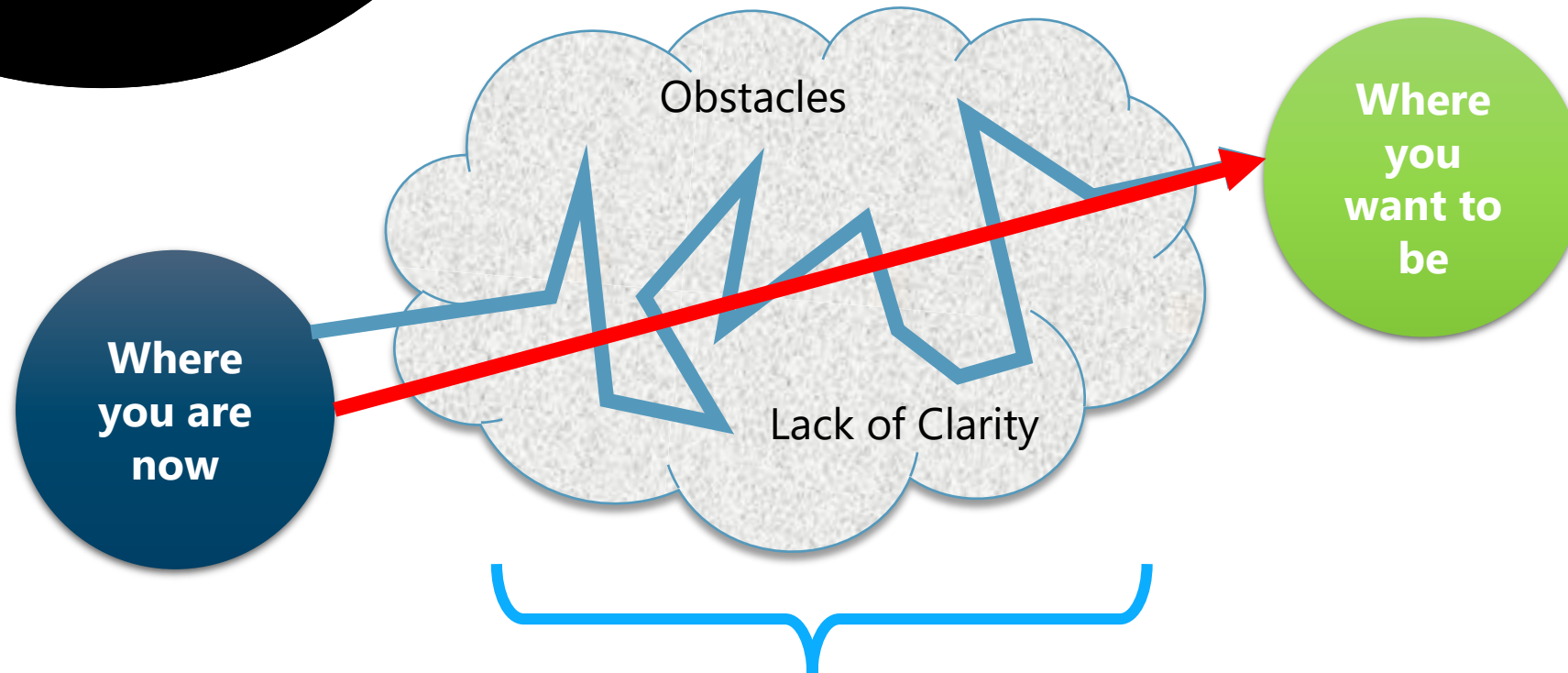
2% improvement every day or $1.02^{365} = 1377.4$

1% improvement every day or $1.01^{365} = 37.78$

1% worse every day or $0.99^{365} = 0.03$

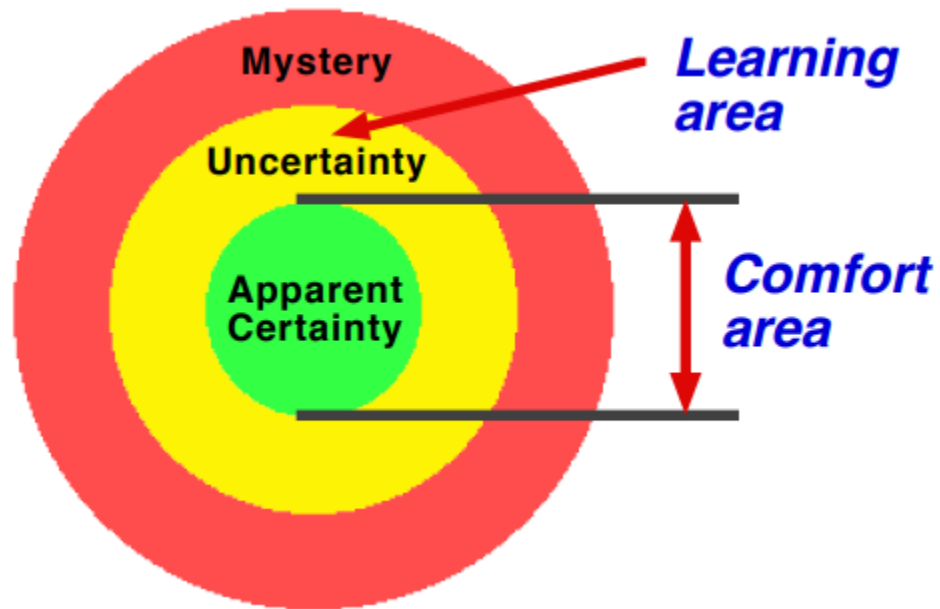


Understanding the Problem



The Grey or Uncertainty Zone
(aka the crystal ball bit)

The Dilemma



Our brains like our comfort zone, we prefer to stay inside that zone where it's safe. So we want to use our existing neural pathways to stay safe, we want to keep using our existing habits.

We can't remove the uncertainty of change, of the process improvement and so we have to get outside that comfort zone and past our current knowledge.

Navigating the Learning Zone



By building a new habit, a standard routine for working, we can give people tools to navigate effectively through the learning zone and solve the problems

Like all habits it has to be learned and it has to be repeated over and over again until it's mastered

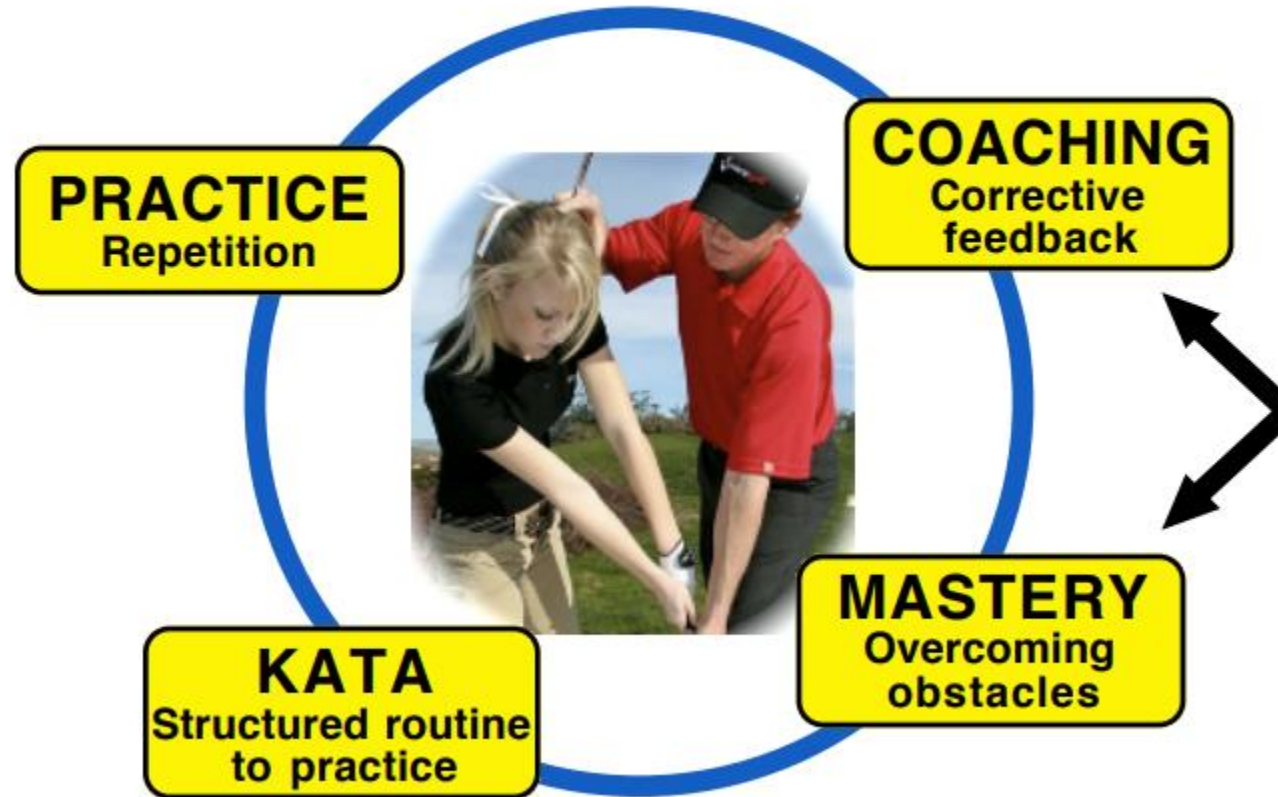
To help master the new habit or skill you need a coach who can ask the right questions and get you thinking the right way.



The Starter KATA

What is a
Kata ?

A **Kata** is a routine you practice, so its pattern becomes an automatic habit that gives you some new skills!



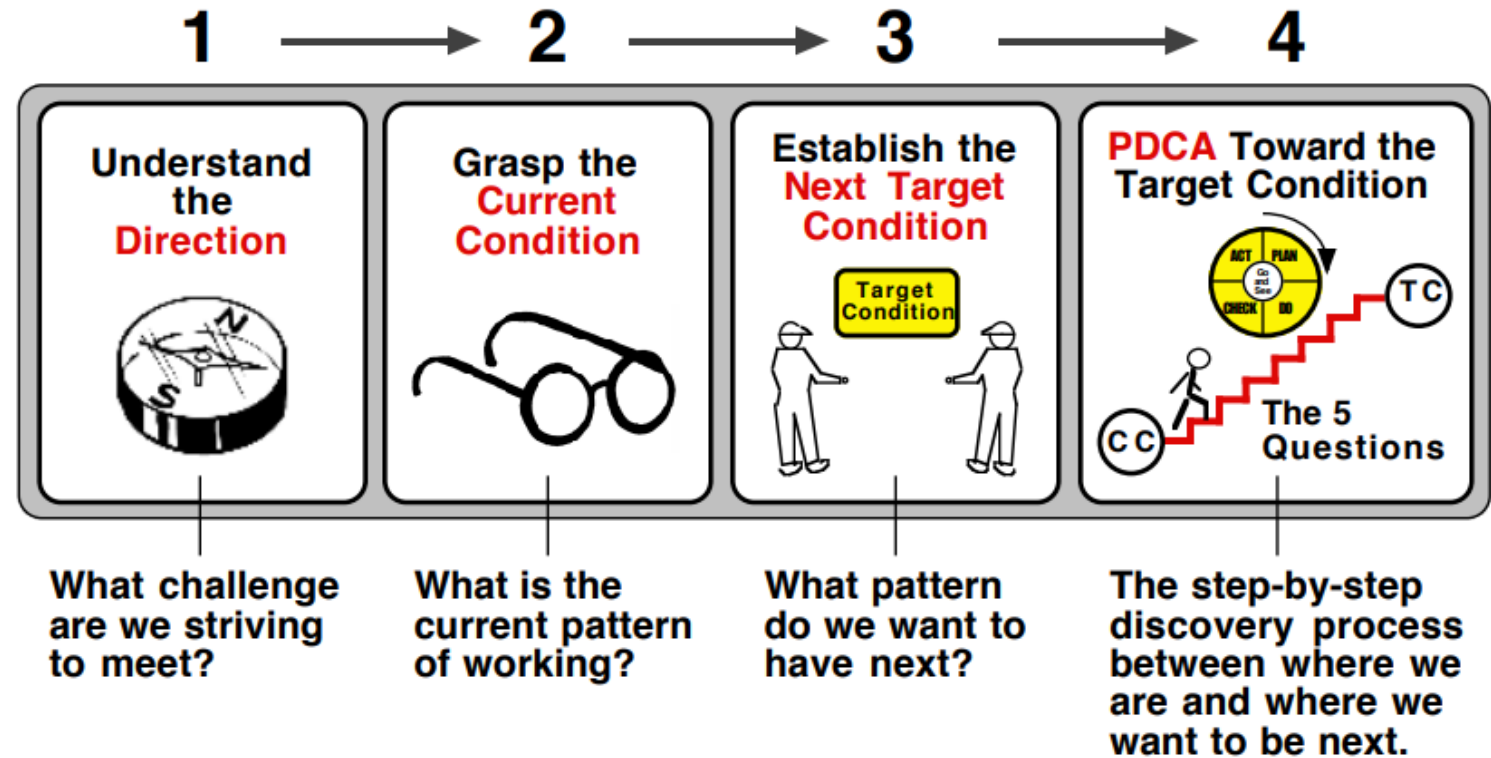
To develop new habits through practice, a Learner will have to experience success.

It will be the responsibility of the Coach to give the Learner procedural guidance that makes the Learner successful in overcoming obstacles on the way to their target condition.

The Improvement Kata

The Improvement Kata is a 4 step routine or habit that takes you through the systematic thinking for solving problems that you have no idea how to solve.

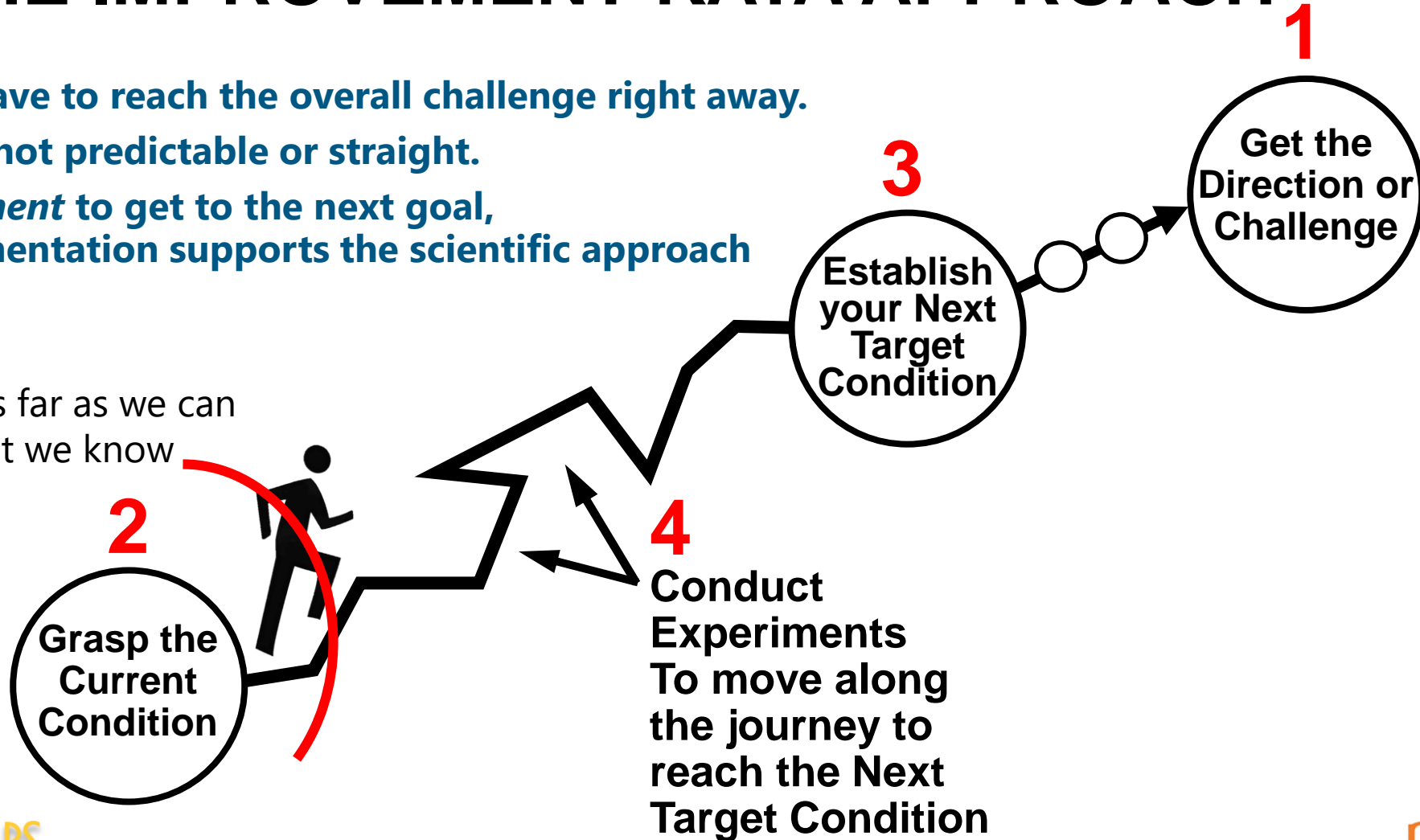
This is the underlying back bone of improvement in Toyota



THE FOUR STEPS OF THE IMPROVEMENT KATA APPROACH

- You don't have to reach the overall challenge right away.
- The path is not predictable or straight.
- You *experiment* to get to the next goal, the experimentation supports the scientific approach

This is as far as we can see, what we know



Reflection

At the end of each experiment you need to reflect on what you did.

The Improvement Kata gives you a structured way to run that reflection by working through the questions opposite.

If you look at it you can see that it's agnostic, it doesn't care what type of problem it is.

REFLECTION

Ask these questions after each experiment

- 1) What is your Target Condition?**
- 2) Where are you now?**
- 3) What did you plan to try
in your last step? (*read*)**
- 4) What was the result? (*change*)**
- 5) What did you learn?**
- 6) What is your next experiment?
(*read*)**

Kata in the Classroom / katatogrow.com

Learning Zone

The learning comes when you start looking at the gap between the result that you get in the experiment you ran and what you expected to happen.



From the difference in results you learn and you adjust your thinking and direction.

The Coaching Kata

This is a new role for Managers to Fill

The Coaching Kata is aimed at the Manager or leader. It gives them a framework for coaching anyone through anything they are working on.

The hardest part of this routine is staying quiet and letting the learner think and struggle for an answer.

The Coaching Kata

For a structured and repeatable approach there is a set of questions that can help form the coaching process.

COACHING KATA

The Five Questions

- 1) What is the **Target Condition**?
- 2) What is the **Actual Condition** now?
-----*(Turn Card Over)*----->
- 3) What **Obstacles** do you think are preventing you from reaching the target condition?
Which **one** are you addressing now?
- 4) What is your **Next Step**?
(Next experiment) What do you expect?
- 5) How quickly can we go and see what we **Have Learned** from taking that step?

*You'll often work on the same obstacle with several experiments

Reflect on the Last Step Taken

Because you don't actually know what the result of a step will be!

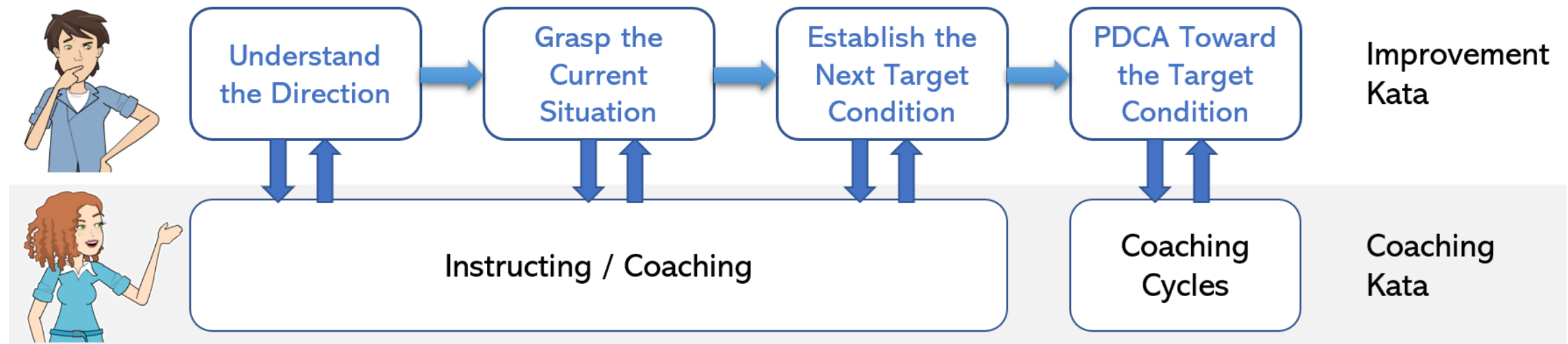
*Have the learner state the **obstacle** being worked on*

- 1) What did you plan as your **Last Step**?
- 2) What did you **Expect**?
- 3) What **Actually Happened**?
- 4) What did you **Learn**?

----->
Return to question 3

Linking Up the Improvement Kata & Coaching Kata Up

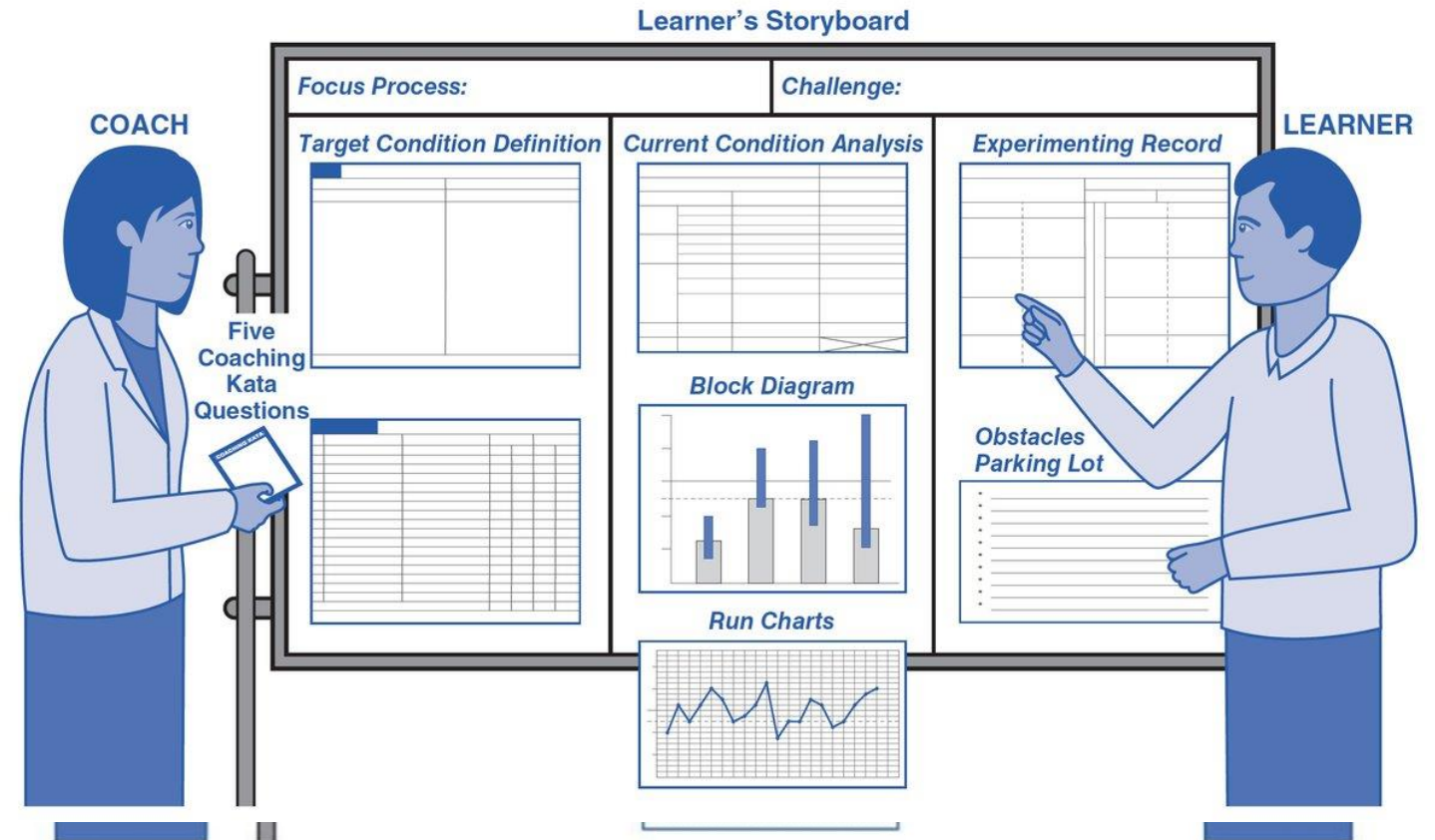
The Improvement Kata / Coaching Kata Pattern



A Daily Coaching Cycle

A daily cycle may take a max of only 20 minutes, the benefit of this of course is that you can coach multiple teams in a very short period of time and understand what is going on in the business.

Daily Coaching Cycles with the 5 Questions



The Storyboard

The purpose of a story board is exactly what the name suggests, it provides the story of the problem and what you are doing about it. It's another example of Visual management

Focus Process:	Challenge: BIG GOAL ~ 3-24 months out																																															
<p>Target Condition Achieve by: _____</p> <p>CLOSER GOAL 1-4 weeks out, on the way to the challenge</p> <p>Where do you want to be <i>next</i>?</p>	Current Condition	<p>Experimenting Record</p> <table border="1"> <thead> <tr> <th colspan="4">EXPERIMENTING RECORD (each row = one experiment)</th> </tr> <tr> <th rowspan="2">Date & time</th> <th rowspan="2">What do you expect + observe</th> <th>Process</th> <th>Result</th> </tr> <tr> <th>Learned</th> <th>Goal</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>Obstacles Parking Lot</p> <p>List of OBSTACLES to the target condition</p>	EXPERIMENTING RECORD (each row = one experiment)				Date & time	What do you expect + observe	Process	Result	Learned	Goal																																				
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Storyboard make up

The learner's storyboard

Focus Process:		Challenge:
Target Condition Achieve by: _____	Current Condition	Experimenting Record
		Obstacles Parking Lot

EXPERIMENTING RECORD (Each row = one experiment)			
Obstacle:		Process:	
		Learner:	Coach:
Date & step	What do you expect = metric	What happened	What we learned
 One Experiment			
		Do a Coaching Cycle	Conduct the Experiment

Experimenting record

Obstacle Parking Lot

Obstacle parking lot

Steps to Establishing a Target Condition	
	1 Review your challenge
	2 Agree on the achieve-by date
	3 Define the desired outcome performance
	4 Define the desired operating pattern
	5 Start the "Obstacles Parking Lot"

Steps to establishing a target condition

1	GRAPH PROCESS OUTCOME PERFORMANCE How is the process performing over time?
2	CALCULATE THE CUSTOMER DEMAND RATE AND PLANNED CYCLE TIME How frequently should the process do what it does?
3	STUDY THE PROCESS'S OPERATING PATTERNS <ul style="list-style-type: none"> Draw a block diagram of the process steps and sequence. Time out cycles and draw run charts, to make variation visible. Record your observations about the current operating patterns.
4	CHECK EQUIPMENT CAPACITY Are there any equipment constraints? (What are they?) (This step is only for processes that include automated equipment.)
5	CALCULATE THE CORE WORK CONTENT How many operations would be necessary if the process had no variation?

Steps of process analysis

CURRENT CONDITION / TARGET CONDITION				
Learner:	Coach:	Focus Process:	Step	Outcome Measure
			Current Condition	Target Condition
1 Outcome Performance	Actual output			
	Operating time			
	Is there variation?			
2 Customer Demand & Planned Cycle	Requirement			
	Takt time			
	Planned cycle time			
3 Operating Patterns	Process steps and sequence			
	Variation			
	Observations about the current operating patterns			
4 Equipment Capacity	Automated equipment constraints?			
5 Core Work	Calculated number of operations			

Current condition/target condition form

Starter Kata

Improvement
Kata

Coaching
Kata

Story
Board

New Neural
Pathways



The Routine

When you want to learn you, you learn the basics then move to more advanced steps, that's' what the Starter Kata is, its the basics to give you the fundamentals and then let you build on that.

Basic Chord Forms

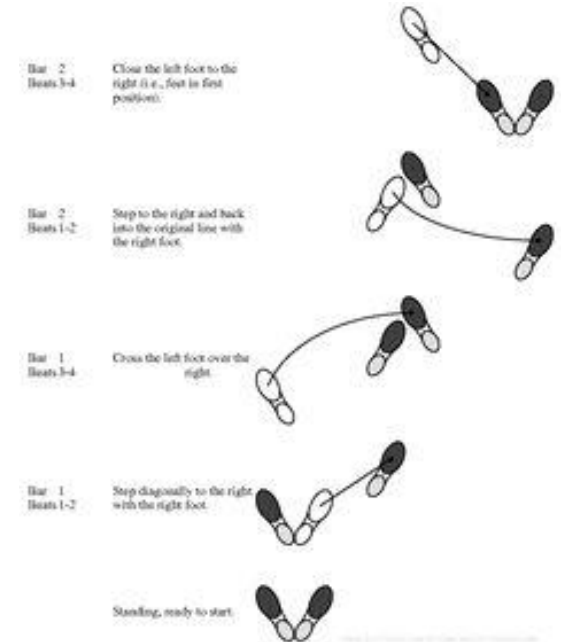
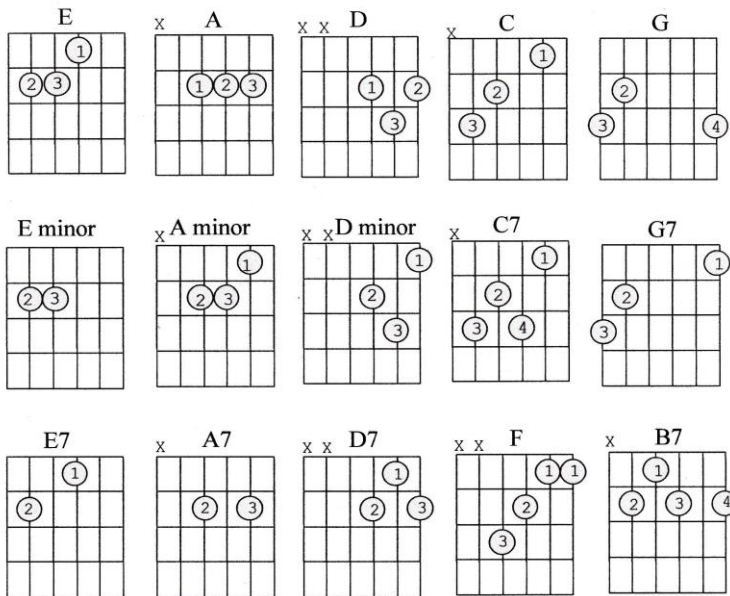
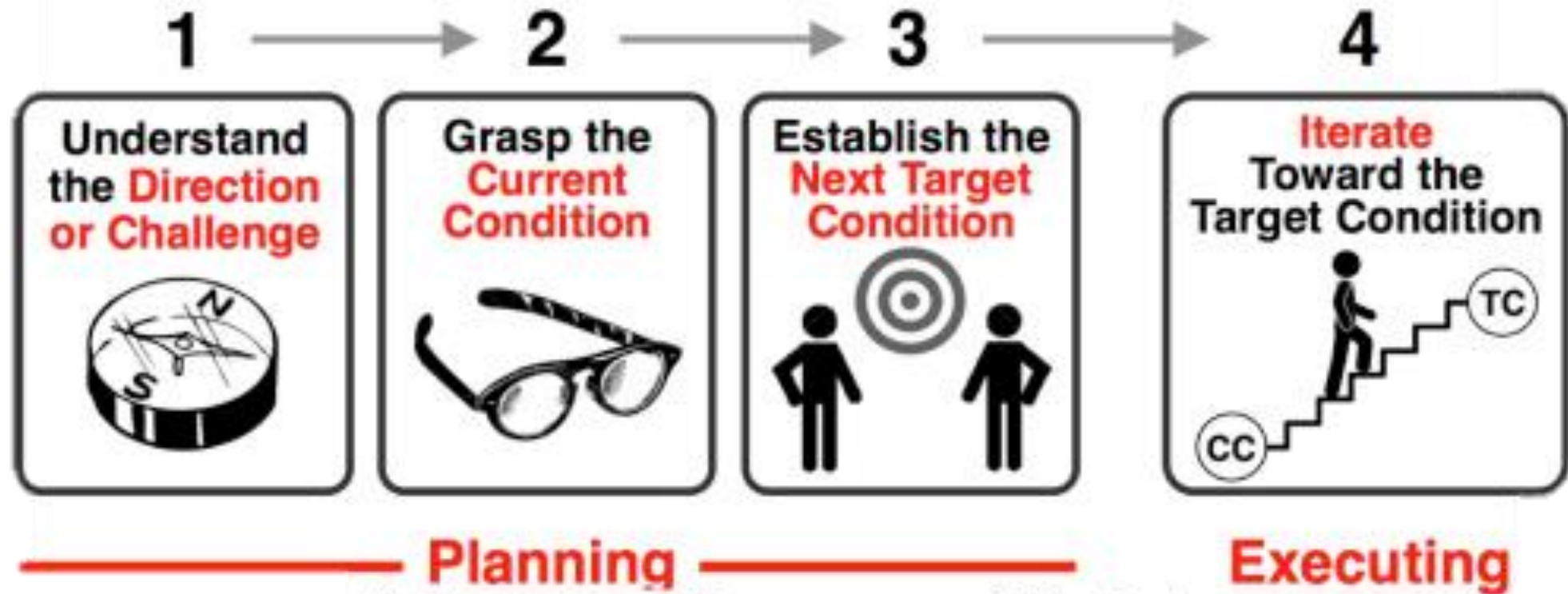


Diagram 8 Stepping to the Right: with diagonal forward travel in order to help another couple when time is short.

THE FOUR STEPS OF THE IMPROVEMENT KATA MODEL

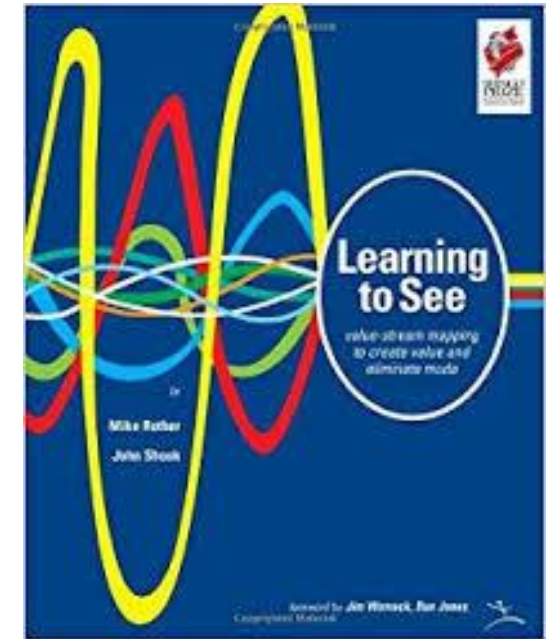
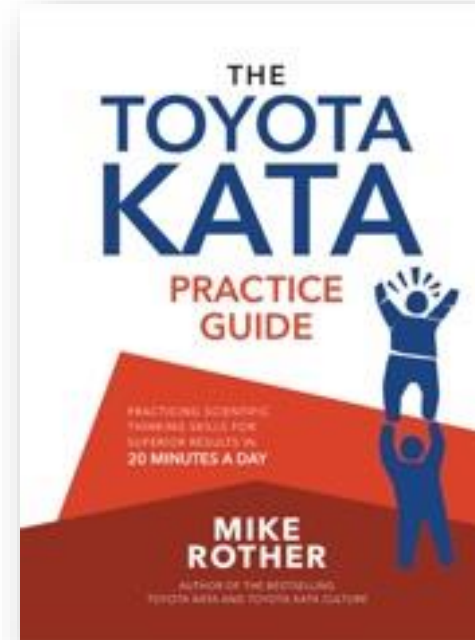
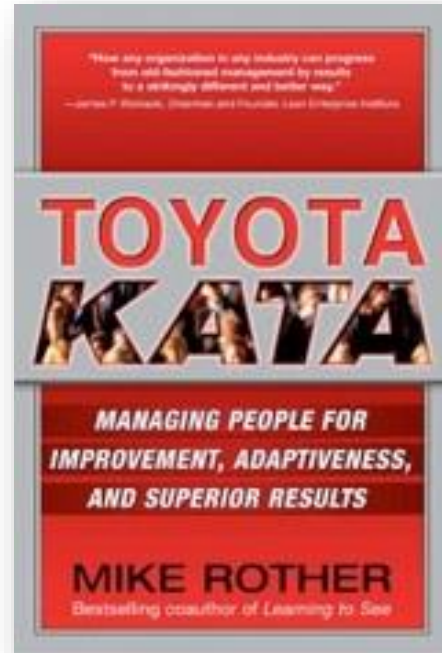
A systematic, scientific pattern of working



The Improvement Kata, courtesy of Mike Rother

Mike Rother

Toyota Kata by Mike Rother



<http://www-personal.umich.edu/~mrother/Homepage.html>

Building a Continuous Improvement Program with Toyota Kata

"One Experiment at a Time"

THANK YOU