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The Toyota Kata website

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

## PRACTICE SCIENTIFIC THINKING

### *Toyota Kata - Develop the creativity & adaptiveness of your team*

Competitive conditions favor teams and organizations that know how to adapt.

It's not as difficult as you might think, because there are structured 'Starter Kata' practice routines you can use to get started.

Toyota Kata is a skill-building process to shift our mindset and habits from a natural tendency to jump to conclusions, to a tendency to think and work more scientifically. Best of all you only need to practice for 20 minutes once or twice a day, under the guidance of your coach

### **Toyota Kata = The Improvement Kata + the Coaching Kata**

- Developing scientific thinking skill and mindset, by initially practicing a few simple "Starter Kata."
- Scientific thinking as an ingredient of how effective teams and organizations navigate.
- A way of working, and of working together, to improve, adapt and innovate.

## TOYOTA KATA –

### **Daily Practice and Coaching for Scientific-Thinking Skill, Mindset, and Culture**

**Toyota Kata** comes from Mike Rother's research on Toyota's management system.

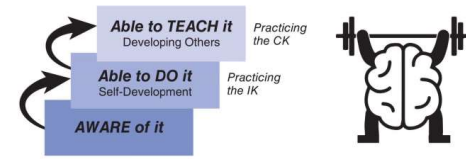
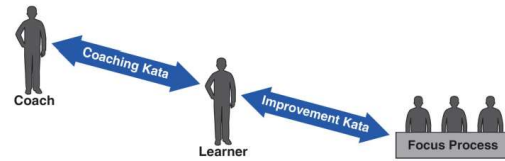
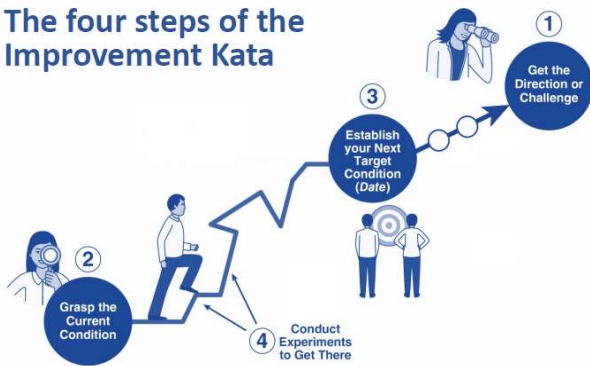
It's a way of developing scientific-thinking skill and mindset in individuals, teams, and organizations, through practicing Starter Kata. Toyota Kata doesn't teach problem solving, but rather a scientific mindset that makes anyone more effective at problem solving.

There are two main elements within Toyota Kata. One is the four-step, scientific **Improvement Kata** pattern, which helps anyone develop fundamental skills of working like a scientist.

The other is the **Coaching Kata**,

which is about practicing the learner-coach relationship for teaching the Improvement Kata pattern.

## The four steps of the Improvement Kata



Illustrations from the Toyota Kata Practice Guide (McGraw-Hill, 2017)

The Improvement Kata and Coaching Kata each come with Starter Kata. Practicing those Starter Kata increases the speed and scalability of learning, and is particularly helpful when you want to develop a shared scientific mindset in a group of people, because everyone starts with the same basics.

**Starter Kata** are compact routines that are practiced deliberately, especially at the beginning, in order to build new skills and habits. Think of playing scales in music.

## 6 Starter Kata for the learner

**The learner's storyboard**

<b>Focus Process:</b> Target Condition Achieve by: _____	<b>Challenge:</b> Current Condition _____	<b>Experimenting Record</b>
		<b>Obstacles Parking Lot</b>

**Experimenting record**

EXPERIMENTING RECORD (Each row = one experiment)			
Obstacles	Process	Learner	Coach
Date & step	What do you expect to achieve?	What happened?	What was learned?
One Experiment			

**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 of process analysis**

- 1 GRAPH PROCESS OUTSIDE PERFORMANCE (Look at the process performance over time)
- 2 CALCULATE THE CUSTOMER DEMAND RATE AND PLANNED CYCLE TIME (How frequently should the process deliver what?)
- 3 STUDY THE PROCESS'S OPERATING PATTERNS (What are the major steps in the process and what variables? Draw an Ishikawa diagram to show the major steps. Check for interrelationships between the major steps.)
- 4 CHECK EQUIPMENT CAPACITY (Are there any equipment constraints? What are they? Do the steps need to be expanded that would increase the capacity?)
- 5 CALCULATE THE CYCLE WORK CONTENT (How many operations would be necessary if the process ran as designed?)

**Current condition/target condition form**

CURRENT CONDITION / TARGET CONDITION		✓
Actual	Target	Value
Actual condition	Target condition	Value
Actual condition	Target condition	Value
Actual condition	Target condition	Value
Actual condition	Target condition	Value
Actual condition	Target condition	Value
Actual condition	Target condition	Value
Actual condition	Target condition	Value
Actual condition	Target condition	Value
Actual condition	Target condition	Value
Actual condition	Target condition	Value

## 2 Starter Kata for the coach

**Card is turned over to reflect on the learner's last step**

<p><b>COACHING KATA</b></p> <p><b>The Five Questions</b></p> <ol style="list-style-type: none"> <li>1 What is the Target Condition?</li> <li>2 What is the Actual Condition now? (Turn Card Over)</li> <li>3 What Obstacles do you think are preventing you from reaching the target condition? Which "last" one are you addressing now?</li> <li>4 What is your Next Step? (Next experiment) What do you expect?</li> <li>5 How quickly can we go and see what we Have Learned from taking that step?</li> </ol> <p><small>*You'll often ask on the same obstacle with several experiments.</small></p>	<p><b>Reflect on the Last Step Taken</b></p> <p>Because you don't actually know what the result of a step will be!</p> <p>Have the learner state the obstacle being worked on</p> <ol style="list-style-type: none"> <li>1 What did you plan as your Last Step?</li> <li>2 What did you Expect?</li> <li>3 What Actually Happened?</li> <li>4 What did you Learn?</li> </ol> <p>Return to question 3</p>
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**Purpose of asking the 5 questions:**

- Reinforce the Improvement Kata pattern.
- Help the coach see how the learner is thinking, so the coach can give appropriate feedback.

**The five Coaching Kata questions**

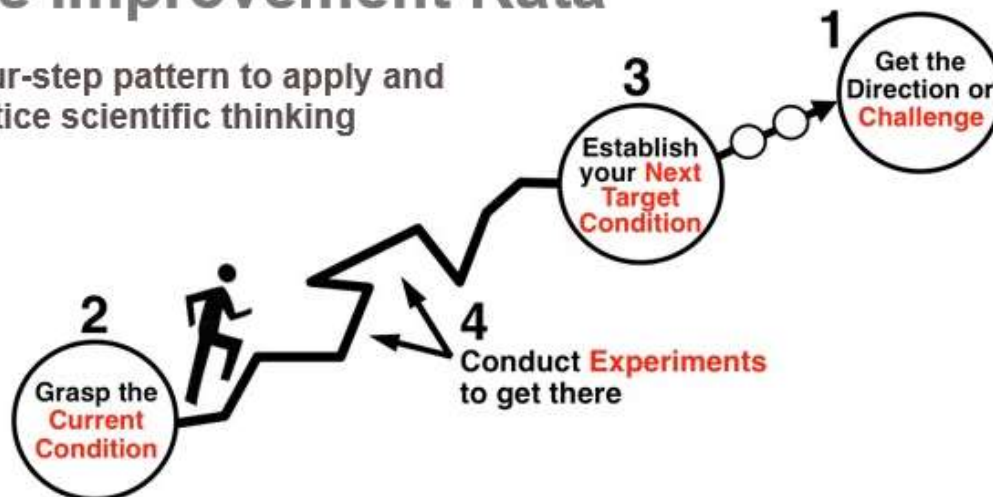
**The 5 questions are the headings for each coaching cycle**

**Daily coaching cycles (20 minutes or less)**

	1. Improvement Kata	2. Coaching Kata	3. Kata Creates Culture	4. Getting Started	5. The TK Starter Kata
	Supporting Materials	The Improvement Kata Exercise	Value Stream Mapping	Extras	Challenge

## The Improvement Kata

A four-step pattern to apply and practice scientific thinking



Today's prescriptions probably won't fit tomorrow's problems, and the path to a challenging goal can't be determined in advance anyway. Your best bet is to practice a universal means of developing your own solutions (a "meta skill" for any situation). That's what you learn by practicing the 4-step Improvement Kata pattern.

When conditions are complex and dynamic, scientific thinking may be the best approach we currently have for navigating. Scientific thinking means knowing that any idea should be tested. It means learning to compare what you think (theory) with what actually happens (evidence), and to adjust based on what you discover from the difference. It's a pattern of thinking that makes us better at reaching difficult goals through unpredictable territory.



However, scientific thinking is not our natural, default mode. What normally happens is that our brain quickly and unconsciously jumps to conclusions. Scientific thinking is not difficult, it's just not our habit.



Adults learn scientific thinking through practice. The simple “Starter Kata” practice routines of the Improvement Kata teach a practical scientific pattern and help change our habits of mind. They speed up your learning and make it easier to scale up in teams and organizations. The Improvement Kata develops and mobilizes anyone’s creative capabilities, creative confidence, and ability to handle tough goals.

The Improvement Kata pattern comes from research on Toyota’s management system which is explained in the business book [Toyota Kata](#). Each step of the Improvement Kata pattern has simple practice routines, called Starter Kata, that make the pattern easily actionable and teachable. Instructions for the Starter Kata are in the [Toyota Kata Practice Guide](#).

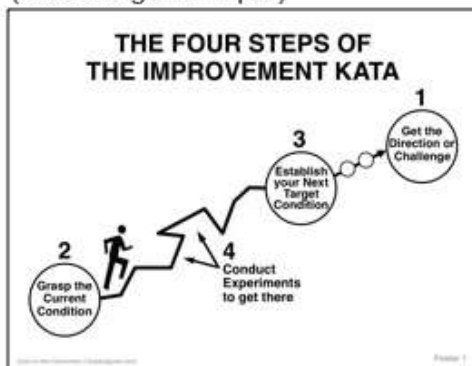
## Start practicing the Improvement Kata today

- ★ *You’re a manager who needs to run a meeting and are wondering how to best do that.*
- ★ *You would like to add useful (and marketable) skills to your personal portfolio.*
- ★ *You’re an educator who wants to help students practice critical-thinking STEM skills.*
- ★ *You want to empower your teams.*
- ★ *You’re curious about the Improvement Kata.*
- ★ *You use Lean techniques and want to develop the necessary mindset.*
- ★ *Your new business is growing and you need a management system.*

Take a first mini step today. Print out the **Improvement Kata poster** and get a few **five question cards**. Read through the questions on the card, in the order shown, with your team, in meetings, etc. You’ll be adding scientific-thinking focus and flow to any meeting.

### Improvement Kata Poster

(click image for a pdf)



### Five-Question Card

(click the card, or get preprinted cards [here](#))

**TOYOTA 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

**CLICK**

	1. Improvement Kata	2. Coaching Kata	3. Kata Creates Culture	4. Getting Started	5. The TK Starter Kata
	Supporting Materials	The Improvement Kata Exercise	Value Stream Mapping	Extras	Challenge

## The Coaching Kata

### Managing through coaching

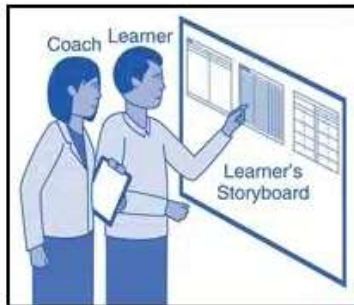
Without coaching a learner may not practice the right pattern, or practice ineffectively. Without coaching, a change in our brain's wiring is less likely to occur. The Coaching Kata Starter Kata helps develop your skill for supporting learners as they practice the Improvement Kata.

The Coaching Kata is practiced by managers, supervisors and team leaders who want to coach their people in a scientific way of thinking & acting, so that those closest to the action are aligned with the organization's goals and can develop solutions close to the action.



Instructions for the Coaching Kata are in the [Toyota Kata Practice Guide](#).

### Coaching cycles - Just 20 minutes a day



One coaching cycle involves the coach asking the five Coaching Kata questions of the learner, who refers to their IK storyboard. This is done once per day at a scheduled time, plus as the need arises, taking 20 minutes or less each time. The five questions are the main headings in the coaching cycle dialog, and going through them has two main purposes:

- Reinforces the pattern of the Improvement Kata.
- Helps make the learner's current thinking apparent, so the coach can give appropriate feedback as necessary.

The never-ending need for improvement and evolution in any organization gives you and your team the perfect setting for practicing new skills: while you do your normal work. The elegant trick is that as you practice and coach the Improvement Kata you are applying it to real goals, always to the best of you and your team's current level of ability.



# THE 5 COACHING KATA QUESTIONS

Ask these questions daily, to help develop and mobilize your team's creative capability

- 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? Which "one" are you addressing now?
- 4 What is the **Next Step** (next experiment)? What do you expect?
- 5 How quickly can we see what we have **Learned** from taking that step?



5Q image by traccsolution.com

Each person here is practicing Starter Kata to help them learn new skill patterns:

