Introduction to Toyota KATA Based Improvement
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What is Kata?

A kata is a structured routine or pattern, practiced deliberately, so the pattern becomes a habit.

By practicing, we can make a pattern second nature, so we can do it with little thought.

Today I will use the words KATA and Pattern interchangeably.
Continuous Improvement

Toyota puts the focus of leadership squarely on continuous improvement

We are here to explore how we can drive continuous improvement

What is continuous improvement?
Improvement Differs from Fixing

<table>
<thead>
<tr>
<th>&quot;Troubleshooting&quot;</th>
<th>Scientific Striving</th>
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</thead>
<tbody>
<tr>
<td>Reacting to problems. You have to do this because problems happen, but it's not enough for competitiveness.</td>
<td>A step-by-step process aimed at a particular target condition. Each step is taken relative to a hypothesis (prediction), and what you learn from that step influences the next step.</td>
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<tr>
<td>Reacting to improvement opportunities someone sees.</td>
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By Mike Rother
Each is Necessary

Scientific striving repeatedly brings you to your knowledge threshold, and forces you to learn and adapt

By Mike Rother
Toyota Production System

Toyota has been a recent example of a company that has excelled at Continuous Improvement.

Use of the Toyota Production System helped Toyota challenge and surpass most US and European auto manufacturers.
Lean is Hugely Popular
Companies striving to be “Lean” like Toyota

Lean and lean tools training are widely available and understood

Concepts of lean, kaizen, kanban, 5S, SMED etc. have been copied from the Toyota Production System (TPS)

Yet in the paper “Why Lean Programs Fail” Jeff Liker and Mike Rother share that outcomes of lean implementations often fall short of expectations

A 2007 Industry Week Survey found that only 2% of lean programs yielded intended results
An informal poll of Shingo Prize past winners, showed a large percentage “had not deeply embedded them (lean principles) into their culture”

So, other businesses have had limited success copying Toyota ....WHY?
What is Missing?

We saw Toyota’s tools, but missed the improvement thinking and leadership behaviors that created the tools.
The Culture of Continuous Improvement

We can develop a similar culture of improvement

Culture is the aggregate of common mindsets

Mindsets can be changed, but we will need to practice
The Power of Habit

The human brain is wired to develop habits, nearly unconscious reactions to inputs

This helps the brain work efficiently, avoiding the effort of deliberate thought

We develop and use habits without even thinking about it
How to Create or Change a Habit

Deliberately Practice the new behavior

Over time people’s mindsets change

In the long term these mindsets build the organizational culture
Habits (patterns) for Improvement

What is our current improvement habit?

What we want to do is to develop a positive habit, or pattern, for improvement

What would a positive improvement pattern look like?
Toyota Continuous Improvement

Continuous improvement definition

Many companies: Somewhere, someone in the company is working on an improvement project
Toyota: Every process, every day, is being improved

Toyota improvement is not just waste reduction
Waste elimination is the RESULT of improvement, not the focus
“Waste chase” can lead to sub-optimizing a process

Toyota provides improvement direction with their vision of an “Ideal State” (also referred to as “True North”)
Why is Direction Important
Some problems we already know how to solve
What if our success depends on us getting here?
Toyota Vision: “Ideal State”

Toyota’s Ideal State describes a operating condition, not a financial goal.
The Ideal State serves as a direction giver, a “guiding light”
The Ideal State is not optional or negotiable.
The Ideal State is theoretical and may not be achievable in practice, but that does not matter.

Customer Focus:
- Zero Defects
- 100% Value Added
- One Piece Flow, in Sequence, On Demand

Human Focus:
- Physical & Mental Safety
- Security
- Professional Challenge

Current Process Condition ———————— Ideal State
Striving for the “Ideal State”

Having the Ideal State for direction is useful, but how do we get there?

Obstacles and Problems will appear on the path, these are the most important to resolve. How do we find them?

How will we know if we are making progress?

Current Process Condition

Obstacles

Ideal State

Human Focus:
- Physical & Mental Safety
- Security
- Professional Challenge

Customer Focus:
- Zero Defects
- 100% Value Added
- One Piece Flow, in Sequence, On Demand
Challenge

A challenge takes a long term, far off vision, and defines top level measures that can be used to gauge progress.

Challenge goals can be years away.
Challenge

A challenge also coordinates improvement efforts on different process loops from a Value Stream
Target Process Conditions (TPCs)

To help identify obstacles and gauge progress in a process loops, KATA uses Target Process Conditions (TPCs)

TPCs are descriptions of how a process should run in the near future

TPCs are **Process** Descriptive, Clear, Measurable, and **Directly Observable**, and time bound
Problem Solving Path

Current Condition

Next Step: Work is performed here that moves you toward the Target Process Condition

Must be clear, measurable and known

Clear, Measurable, Well Defined Condition

Path will be Unclear (There is no way to predict the obstacles)

Vision and Challenge

Must be clear, measurable and known

Vision and Challenge
KATA Improvement – Moving toward the Challenge

KATA uses three basic concepts to drive improvement

Improvement Pattern:
• Identifies and drives improvement of our processes

Target Process Conditions:
• Describe how we want a process to work

Mentoring Pattern:
• Guides and teaches the Improvement Pattern

These are used throughout the organization, on all processes, utilizing the skills of all people
Improvement Pattern

Understand the Direction (e.g. The Challenge)

Grasp the Current Condition (e.g. process analysis)

Establish the Next Target Process Condition

PDCA to the Target Process Condition

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Target Process Conditions (TPCs)

TPCs are descriptions of how a process should run in the near future.

TPCs are **Process Descriptive**, **Clear**, **Measurable**, and **Directly Observable**, and **time bound**.
Socialized TPCs enable engaged, creative problem solving

Judgments
Hunting for waste and potential
Opinions

Lists of action items
Voting

“What can we do?”

Target Process Condition

“What do we need to do?”

Direction can change depending on who is the most persuasive at the moment

Focused thinking and acting

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The Mentoring Pattern: Mentor/Mentee interaction

Guide and help mentee to understand direction, determine the process’ Current Condition, and set a new and challenging Target Process Condition

Grasp the Current Condition (e.g. process analysis)

Establish the Next Target Process Condition

PDCA to the Target Process Condition

Guide and help mentee achieve Target Process Condition using 5 Question cycle

Understand the Direction (e.g. The Challenge)

Mentor (Coach)

Mentee (Learner)

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Mentoring to define a TPC

Guide the mentee through Current Condition process analysis
   Check in often, each step in PA should be a proposal/response
   If a step gets skipped, or not quite done correctly, bring the mentee back to redo the step

When the Current Condition is well understood (& documented), have mentee propose a TPC, working from the CC

Once the TPC is agreed on, the Mentoring Pattern (5 Questions) helps the Mentee learn using PDCA and completes the Improvement Pattern
The 5 Question Cycle for Mentors

What is the Target Process Condition?

What is the Current Process Condition? (Go & See)
  - What was your last step?
  - What did you expect to happen?
  - What actually happened?
  - What did you learn?

What problems or obstacles are preventing you from reaching the Target Process Condition?

What is your Next Step?
  - Start of next PDCA loop

When can I Go & See what we have learned from that next step?

Mike Rother, Toyota Kata
Improving Step By Step

A target process condition is achieved by taking small steps, one foot in front of the other, with rapid Plan-Do-Check-Act cycles, always adjusting to the present situation by asking, “What is the Next Step?”
Thinking about the Lean Tools

Simply implementing TPS/lean tools, such as Standard Work, Kanban cards, JIT, is not the heart of Toyota’s CI system.

Their system uses the lean tools as part of a Target Process Condition, a temporary condition on the path to the Ideal State.

The tools eliminate the ability to work around problems without highlighting them.

Once the problems are systematically exposed, they must have a systematic response, otherwise improvement will not occur.

Leadership needs to create and support these process and response systems.
NO PROBLEM = BIG PROBLEM

Every problem is an opportunity to become better and learn given a clear target to pursue.

Too often, problems are deeply buried and seem non-existent, therein lies the opportunity.

Only by exposing the problems can the opportunity be found and our improvement capabilities be exercised.

A well defined Target Process Condition limits the ability for problems to be covered up, thereby exposing them so they can be solved.
The KATA Framework Aligns Goals with CI Tools

Major outcome goals – Safety, Quality, Delivery, Cost

- Determine affect of meeting TPC on output metrics
- Meeting TPC? (includes Quality, EHS)
- Analyze Process and Define TPC
- Determine obstacle, identify root cause, use countermeasure
- Was Counter Measure effective?
- Yes
- Standardize Next Step at process. Share Lessons Learned
- No
- CI Toolkit
- Problem Type?
- Yes
- Simple process: Cause and effect analysis, fishbone diagram
- No
- Complex process, identifiable deviation from normal: Kepner Tregoe
- Yes
- Complex process chronic problem, or variation: Six Sigma
- No
- Flow, efficiency issues: Lean tools

Major outcome goals – Safety, Quality, Delivery, Cost
Improvement Capability

It is not solutions alone – whether today’s profitable product, lean techniques, or any other – that generate sustained competitive advantage.

Rather, it is the degree to which we develop and utilize human capability to understand conditions and create new solutions, again and again.

Developing such skills and culture in the organization is the responsibility of its leadership and management.

• Mike Rother, Toyota Kata website 2010
Leading performance in commercial laundry