# Chapter 6
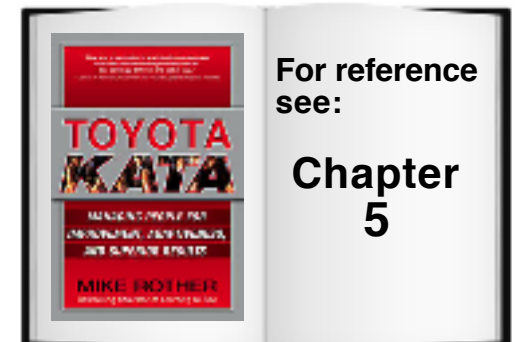
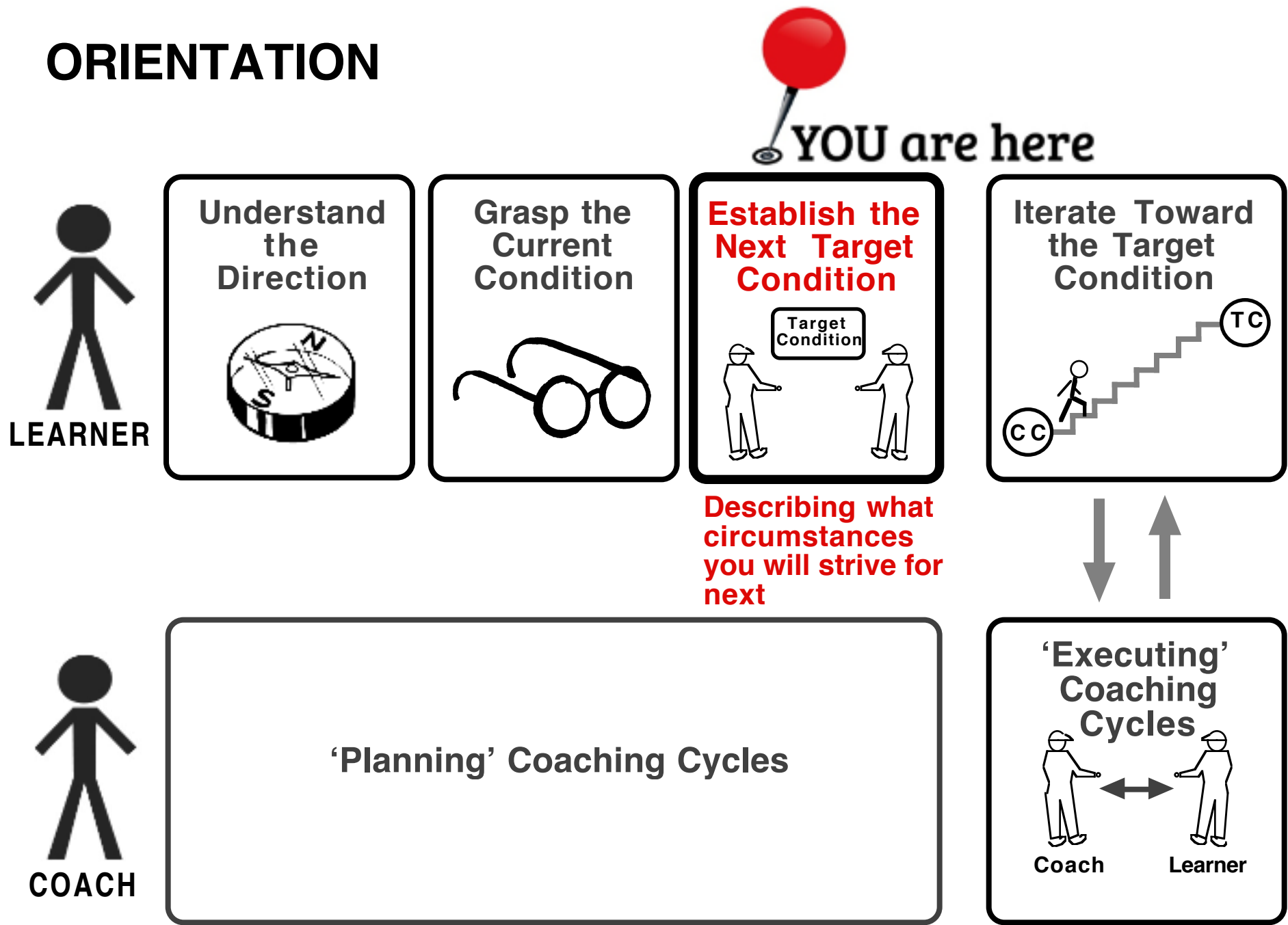**The Improvement Kata - Planning Phase**

## Step 3: ESTABLISH THE NEXT TARGET CONDITION

**Practice this Routine**

GOAL

For reference see:

**Chapter 5**

TOYOTA KATA

MIKE ROTHER

# ORIENTATION

**YOU are here**

| | | | |
|---|---|---|---|
| **LEARNER** | **Understand the Direction** | **Grasp the Current Condition** | **Establish the Next Target Condition** |

**Establish the Next Target Condition**

Target Condition

**Describing what circumstances you will strive for next**

**Iterate Toward the Target Condition**

TC

CC

**COACH**

'Planning' Coaching Cycles

**'Executing' Coaching Cycles**

Coach          Learner

# LEARNER'S STORYBOARD
## Learner and Coach are now concentrating on these two fields

**Focus Process:**

**Challenge:**

**Target Condition**
Achieve by: _____

**Current Condition**

**PDCA Cycles Record**

**Obstacles Parking Lot**

Concept Overview

# WHAT IS A *TARGET CONDITION*?

## A Target Condition is a common picture of success

- A **Target Condition** is an interim goal on the way to the Challenge, described in greater detail than the Challenge. It usually takes several successive target conditions to reach a Challenge, so it is sometimes called the *"Next Target Condition."*

- A **Target Condition** only describes where you want to be next, <u>not how to get there</u>. That will be figured out through experimenting in the next step of the IK pattern.

- A **Target Condition** describes a desired future set of circumstances that lie beyond our current knowledge threshold. We don't yet know how we will get there.

- A **Target Condition** has a specified achieve-by date, which is often between 1 week and 3 months out. Longer than that is often ineffective and should generally be broken down to smaller Target-Condition increments.



Based on a graphic by Bill Costantino
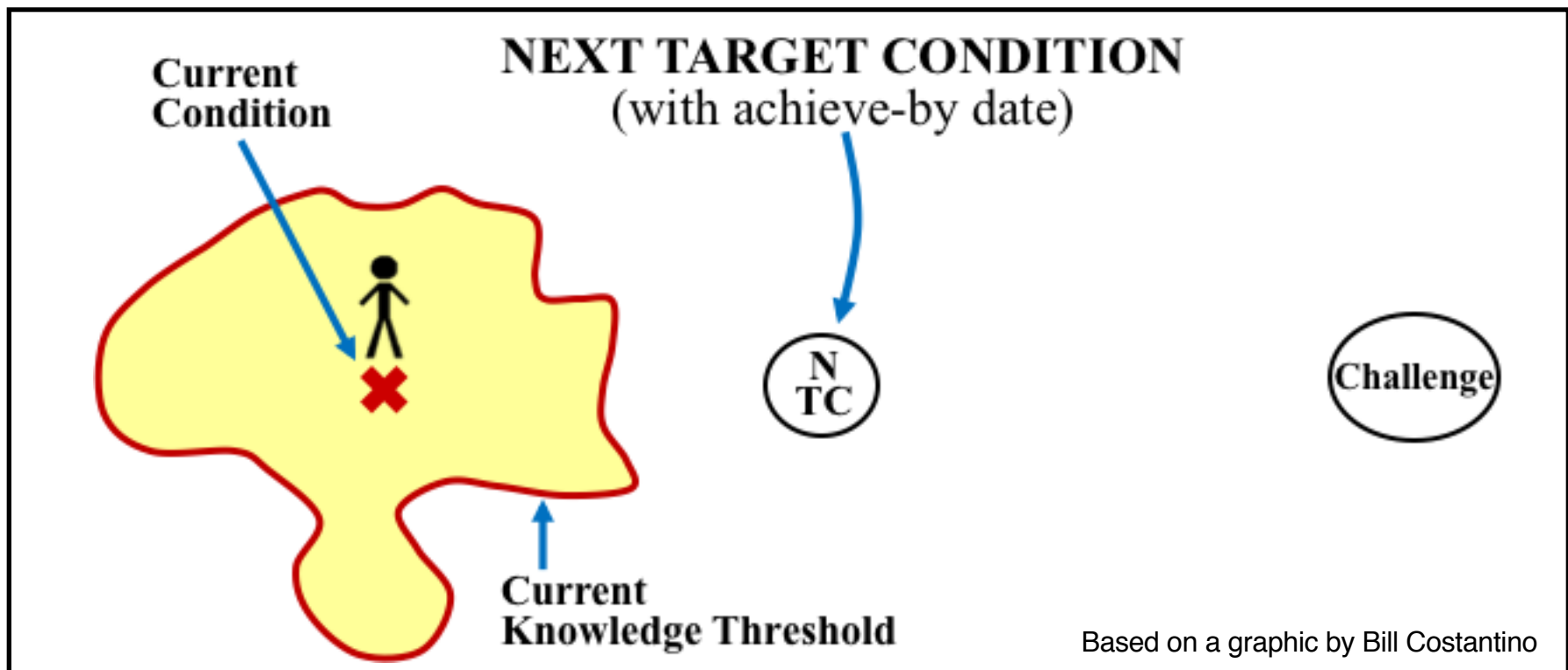
# A TARGET CONDITION IS AN ESSENTIAL ELEMENT FOR ACTIVATING & MOBILIZING HUMAN INGENUITY



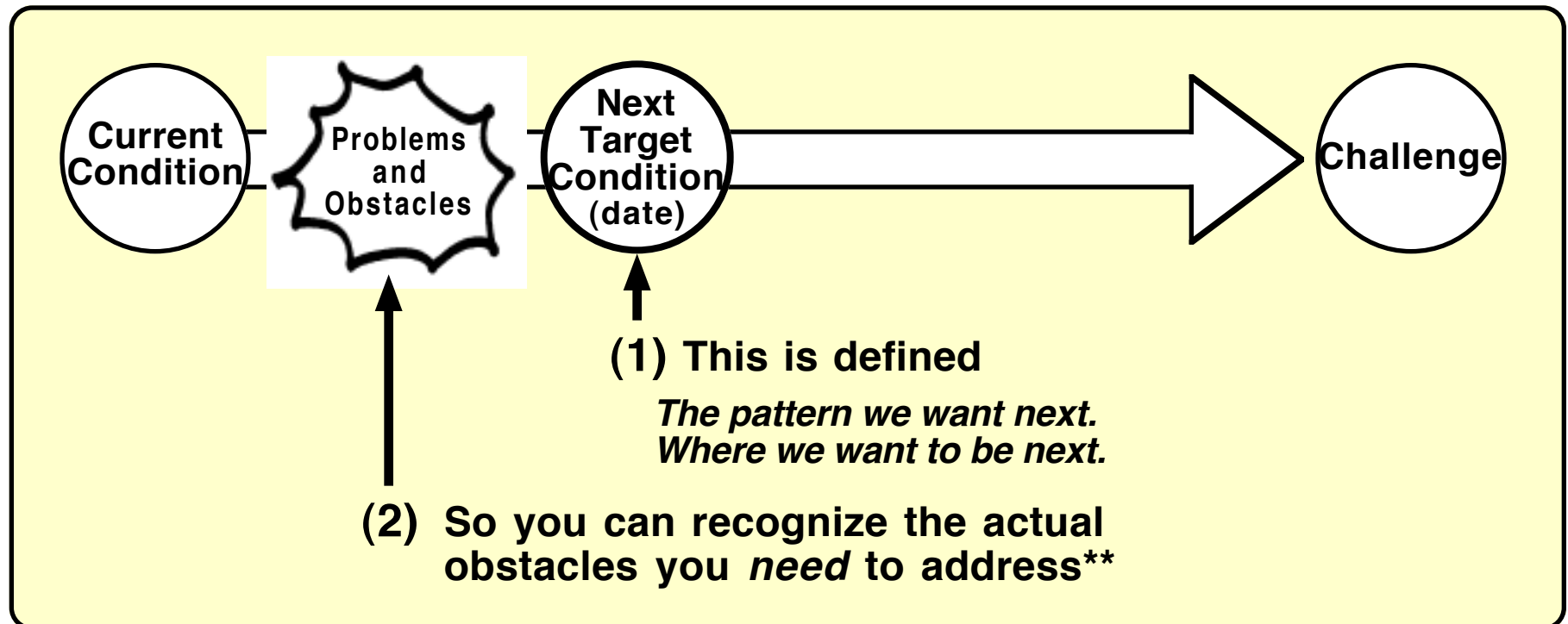**A Target Condition is a key element in the creative process.**

**A Target Condition is a forward-looking new goal (a positive future projection) rather than a backward reflection of problems. It's about moving toward something as a path to achievement.**

**A Target Condition prompts us to consider a different set of circumstances from those that currently exist.**

# A TARGET CONDITION IS A SET OF CONSTRAINTS THAT HELP YOU WORK SCIENTIFICALLY

## It's like a "Research Topic" in traditional science

**By defining a Target Condition and striving to achieve it, you learn what is preventing you. That shows you specific things to focus on.**



**(1) This is defined**

*The pattern we want next.*
*Where we want to be next.*

**(2) So you can recognize the actual obstacles you *need* to address\*\***

** \*\* The Improvement Kata involves going after only the *right* issues one at a time, i.e., those obstacles you actually find are preventing you from getting to the specific Target Condition you're striving to reach. There will be many things you *don't* work on.**

# A TARGET CONDITION ENABLES TEAMWORK

## Mutual effort toward a mutual end

### *WITHOUT* A TARGET CONDITION

- Disorganized discussion about *solutions*.

- Exchange of opinions. Debate about my idea versus your idea. *"Who's right?"*

- Prioritization by dominant individuals.

- No experimentation.
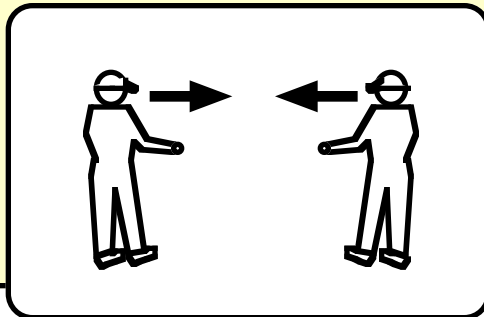
### *WITH* A TARGET CONDITION

- Structured discussion about next experiment toward a common picture of success.

- *"What do we need to work on next to reach our objective?"*

- Moving forward scientifically.
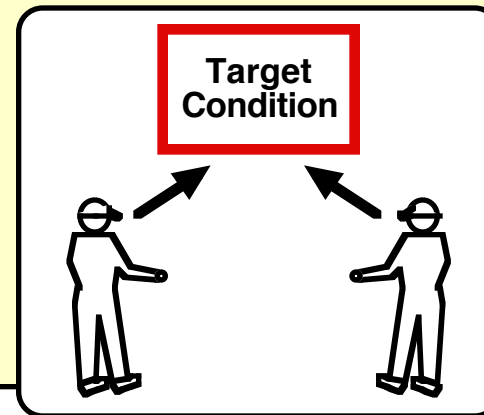
Target Condition

## Once you've experienced the role of a Target Condition you'll find it difficult to work without one!

# A TARGET CONDITION HELPS YOU BEAT ENTROPY

## Without something to strive for, any process will naturally tend to degrade

**ENTROPY HAPPENS**

**It's estimated that 80-95% of the variation in a work process is random, or *common cause* variation. These are systemic problems. Although problems are occurring, the process is actually statistically stable. These problems are normal in the current system.**

**In the case of systemic problems, examining each failure and searching for the root cause in order to solve that problem ("troubleshooting") is not a good approach for improving.**

**In order to take action against the results of common cause variation, the system itself must be changed. A systemic improvement is needed.**

**That's what a Target Condition represents.**

# THINK OF A TARGET CONDITION AS SOMETHING NEW YOU ARE AIMING FOR... SCIENTIFICALLY

- *What was our last step toward the Target Condition?*
- *What did we expect to happen?*
- *What actually happened & what did we learn?*
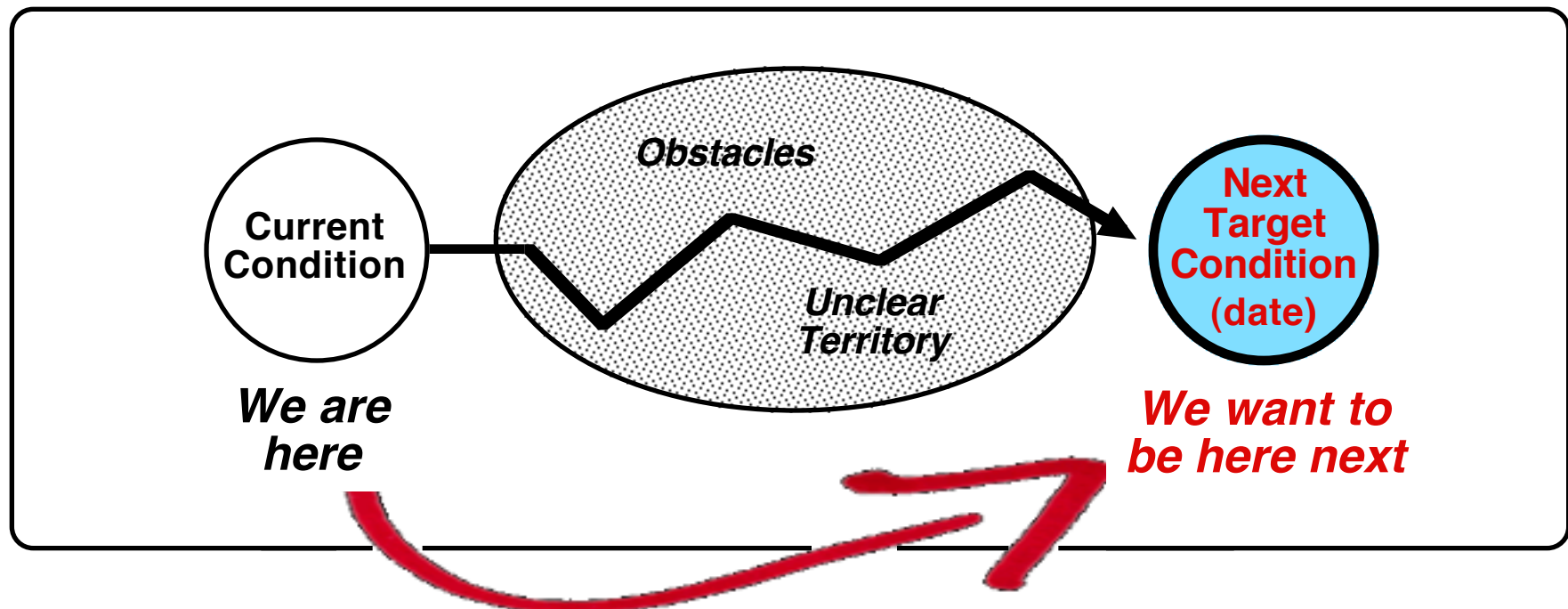- *What is our next step?*

**TARGET CONDITION**

Illustration from *The Team Handbook*, page 3-33
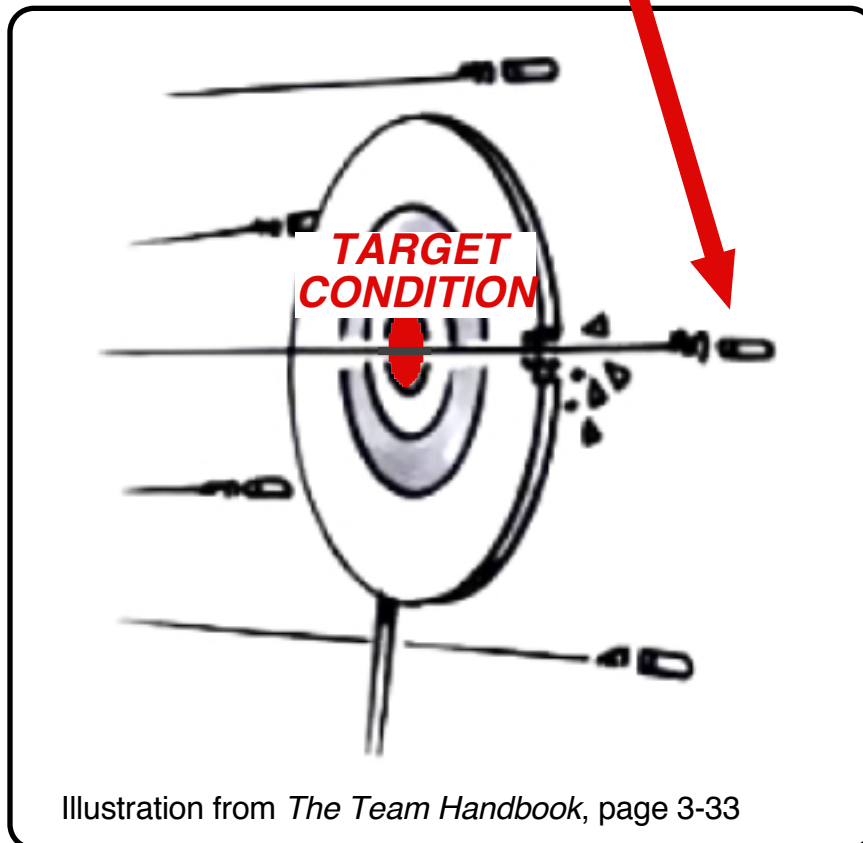
**Operating without a Target Condition leads to acting based on opinions**

**?**

# EXPRESS A TARGET CONDITION AS IF YOU WERE ALREADY THERE

**Establishing a Target Condition is like time travel. Pretend you have fast-forwarded to the achieve-by date and are looking at the focus process. The Target Condition is a description of what you see.**



**Obstacles**

**Current Condition**

*We are here*

**Unclear Territory**

**Next Target Condition (date)**

*We want to be here next*

**A Target Condition answers questions like:**

- *How do we want this process to be operating / functioning on (date)?*
- *What functionality do we want to have by (date)?*
- *What is the target pattern we envision existing on the achieve-by date?*

# A Target Condition describes
# both a **desired outcome** and
# desired **operating attributes** that generate that outcome

**A Target Condition includes both of these elements
and is therefore more than just an outcome goal**

| TARGET CONDITION | |
|---|---|
| **Desired Operating Attributes** *"How the game is played"* **+** | **Desired Outcome** *"The score"* |
| Desired attributes of how basketball free throws are shot | 80% of basketball free throws made |
| Desired attributes of how math and science are taught. Desired attributes of student practice. | All 6th grade students in our school passing the standardized test for math and science |

*Examples*

# YOUR EXPERIMENTING WILL TAKE PLACE ON THE OPERATING ATTRIBUTES

**The *"construction site"* will be here**

*Focus your experimenting here, to achieve the desired outcome*

## TARGET CONDITION

| Desired Operating Attributes **+** | Desired Outcome |
|---|---|
| *This is actionable* | *This can't be achieved directly* |
| Desired attributes of how basketball free throws are shot | 80% of basketball free throws made |
| Desired attributes of how math and science are taught.  Desired attributes of student practice. | All 6th grade students in our school passing the standardized test for math and science |

# A TARGET CONDITION SHOULD BE CHALLENGING

## A Target Condition lies outside what you currently know

Don't limit a Target Condition to what you already know.  As you define a Target Condition, you should not yet know exactly how you will achieve it.  This is normal.  Otherwise you'll just be in an *implementation* mode rather than in a creative *improving and innovating* mode.

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.

**Mystery**

**Uncertainty**

**Apparent Certainty**
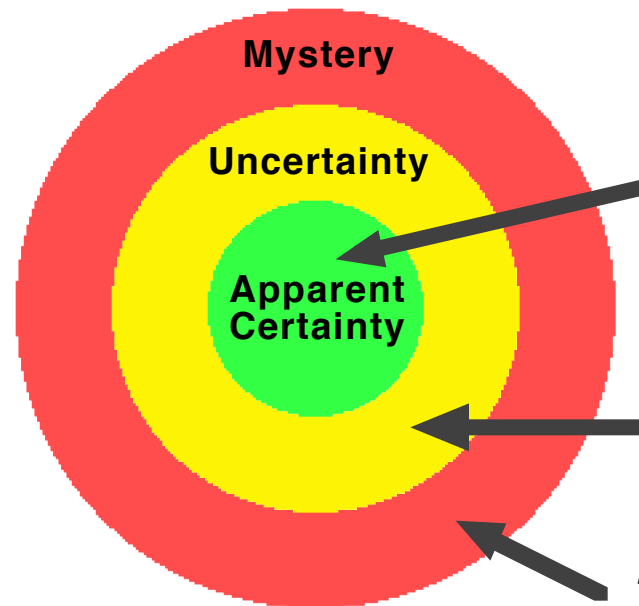
*In this zone you're only reshuffling things you already know. You can already see how to reach the goal.*

*True improvement is in this zone, because you have to develop new ways by thinking creatively and experimenting.*

**Too difficult for today**

*"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**

---

**A Target Condition is <u>not</u> about the highest payoff or lowest-risk option. It's something you <u>need</u> to strive for next in order to get closer to meeting your overarching challenge.**

Don't utilize cost/benefit analysis (ROI) to determine what a Target Condition should be. Using cost/benefit analysis in this way means you're only operating within the scope of what you already think you know; within your current knowledge threshold. You can't really assign a cost to what you don't yet know.

In other words, don't use cost-benefit analysis to determine *where to go*. First determine where you want or need to be next—the Target Condition—and then you can utilize cost/benefit analysis along the way to help you determine *how* to get there.

What you are doing is defining the next Target Condition you need to achieve in order to move toward the challenge, and then working iteratively to achieve it within budget and other constraints. A Target Condition should be achieved within target cost and time, of course, but it usually takes ingenuity & resourcefulness along the way to achieve the goal within those constraints.

In this managerial system, cost/benefit analysis is used less for determining direction and more for helping to definine where we need to get creative in order to achieve a desired condition.
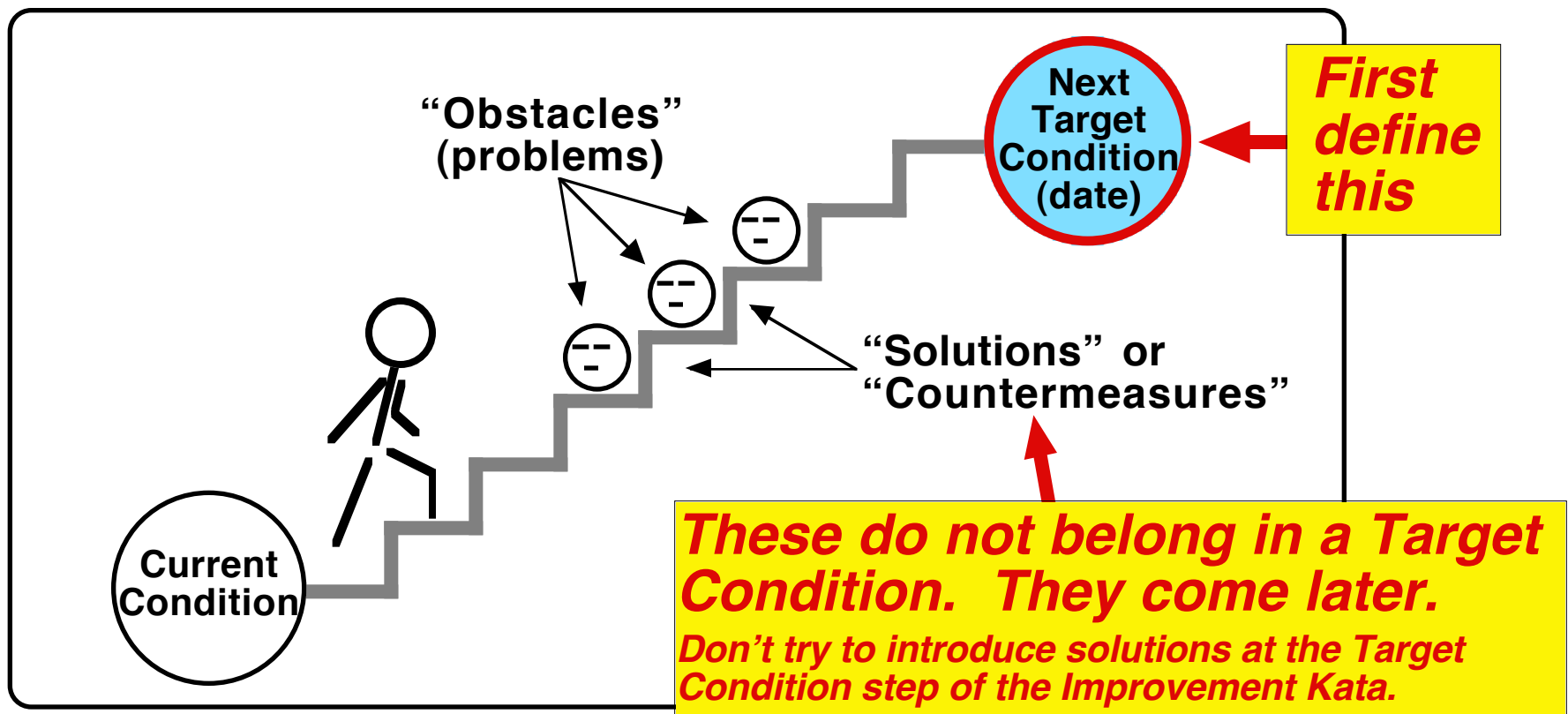
| A TARGET CONDITION IS NOT | WHY |
|---|---|
| A Target Condition is not about avoiding negative outcomes. | A Target Condition is about achieving new outcomes. |
| A Target Condition is not an either/or choice between existing options. | A Target Condition represents a new situation that did not exist previously.<br><br>You are aiming for all the attributes of the Target Condition to exist *simultaneously.* It's "and" not "or." |
| A Target Condition does not mean setting a stretch goal and then just letting people struggle with it. | The Improvement Kata is about giving people challenges *and* teaching them (through practice) an effective way of meeting them. |

# DO NOT PUT SOLUTIONS IN A TARGET CONDITION
## This is a common error in defining a Target Condition

A *Target Condition* does not contain *solutions*. It is only a description of set of performance attributes you want to reach by a specified date. Slow down and just describe that... it's too early to talk about solutions.

You don't yet know how you will get there, and that's normal. Later, in the 'Executing' phase of the Improvement Kata, you'll work iteratively to overcome *obstacles* that lie between you and the Target Condition, by developing and testing *solutions* or "countermeasures".



"Obstacles" (problems)

Next Target Condition (date)

*First define this*

"Solutions" or "Countermeasures"

Current Condition

*These do not belong in a Target Condition. They come later.*

*Don't try to introduce solutions at the Target Condition step of the Improvement Kata.*

# EXAMPLE
## Don't put solutions in a Target Condition

| VISION: | No harm to patients. |
| --- | --- |
| **CHALLENGE (1 year):** | A specific rate of medical errors lower than today's |

| NOT a Target Condition | USEFUL Target Condition |
| --- | --- |
| *Visual boards in every patient's room.* | *The visual boards in every patient's room are complete and accurate.* |
| In this case the team already knows the answer, so there is no process of experimentation, discovery and learning. The stated goal is within the team's threshold of knowledge and thus is not a Target Condition. | The team does not yet know how it will reach this Target Condition. To get the boards to be "complete and accurate" will require a process of discovery and change. Now the team can conduct experiments against the obstacles they find are preventing the boards from being complete and accurate. |

Many problem solvers mistakenly think of the solutions they already have in mind as a Target Condition. The "lack of a proposed Lean tool" isn't a Target Condition, but on the other hand, to make a Lean tool actually work will surface a lot of underlying issues.

Here's a tip. When a team is prematurely focusing on solutions, ask what effect they envision those solutions having. What they say then will be closer to a real Target Condition.

Example by Michael Lombard, Drew Locher and Mark Rosenthal

# THE DIFFERENCE BETWEEN "TARGET CONDITION" AND "SOLUTIONS"

**TARGET CONDITION** → **PLAN** → **SOLUTIONS**

**A description and specification of a desired new operating pattern, performance attributes, characteristics or functionality you want a process or system to have on a future date.**
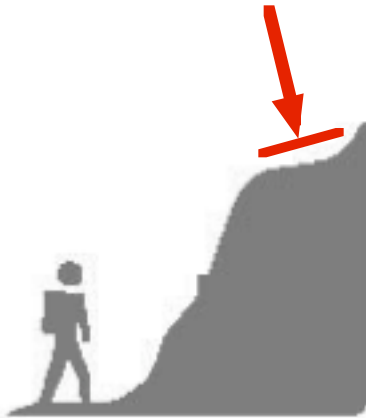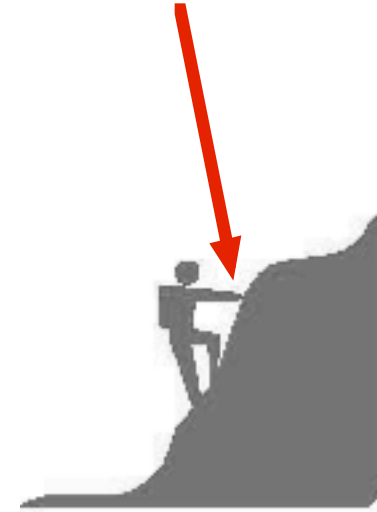
**A prediction of the steps that will be required to achieve the Target Condition.**

**(Every plan is only a theory)**

**These are the actual steps, techniques and countermeasures that you learn are necessary for achieving the Target Condition in reality.**

**The exact path that gets you to the Target Condition will only be known in hindsight.**

# WHEN YOU FINISH THE 'TARGET CONDITION' STEP OF THE IK THERE WILL BE UNCERTAINTY

## The path to your Target Condition should be non-obvious. That's normal and correct!

We have a natural tendency to state solutions we already have in mind as goals, which is unscientific. As you establish a Target Condition, people on the team will often already have ideas about how it can be reached. It's important to recognize that these are only theories about the potential path, and that while you can acknowledge them (and they may be right), they should not be included in your Target Condition.

You are heading into the grey zone of uncertainty, so formulate your Target Condition in a way that remains open to solutions other than those you might currently think will get you there.

You'll be making lots of course corrections as you strive to achieve your Target Condition and learn through experimenting

# Practice Routines

# KEEP IN MIND THAT YOU DON'T NEED TO REACH THE CHALLENGE IN ONE LEAP

## There will be several target conditions on the way to the challenge

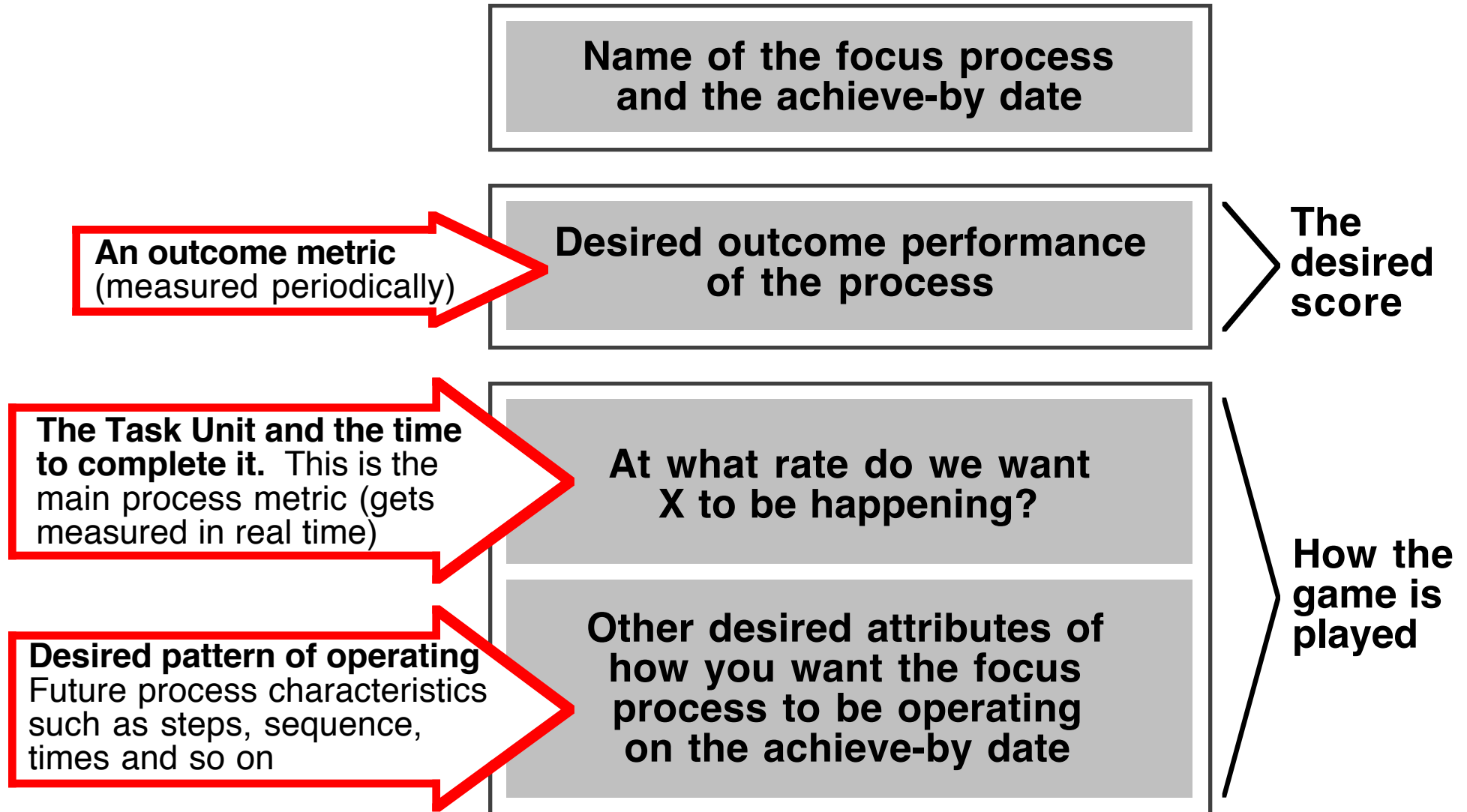The exact series of target conditions required to meet the overarching challenge can't be defined in advance. When you reach one Target Condition you'll know a lot more about what the next Target Condition should be.



**Current Condition** — Obstacles — **Target Condition (date)** — **Successive Target Conditions** — **Challenge** — **Vision**
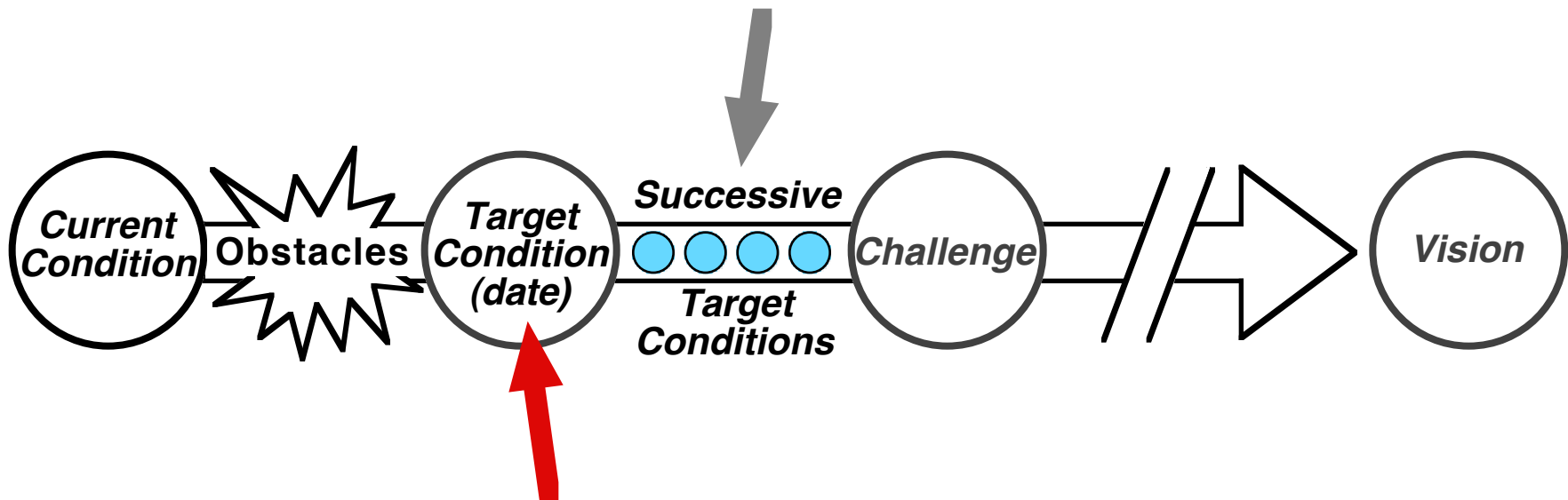
You're only trying to specify the **next** Target Condition at this time

# ELEMENTS OF A GOOD TARGET CONDITION

## Note that a Target Condition is not just an outcome metric

**Name of the focus process and the achieve-by date**

**An outcome metric** (measured periodically) →

**Desired outcome performance of the process**

} **The desired score**

**The Task Unit and the time to complete it.** This is the main process metric (gets measured in real time) →

**At what rate do we want X to be happening?**

**Desired pattern of operating** Future process characteristics such as steps, sequence, times and so on →

**Other desired attributes of how you want the focus process to be operating on the achieve-by date**

} **How the game is played**

# REFER TO YOUR PROCESS ANALYSIS

**Describe the next Target Condition for the focus process based on your observations and analysis of its Current Condition**

**Process Analysis Current Condition**

**Target Condition**

**Outcome Performance**

How is the process performing over time? (Graph)

→ Desired outcome performance of the process

**Customer Demand & Planned Cycle Time**

What is the rate of demand and the desired rate of 'production'?

→ At what rate do we want X to be happening?

**Characteristics of the Current Process**

- Make a block diagram of the work pattern.
- Measure exit cycles and graph fluctuation.
- Record your bullet-point observations.

Other desired attributes of how you want the focus process to be operating on the achieve-by date

**Equipment Capacity**

Are there any equipment constraints? What are they? *Optional*

**Necessary Number of Operators** (if the process were stable)

How many people are necessary? (Calculated)

# EXAMPLE TARGET CONDITION CONTENTS

**The elements in a Target Condition reflect the level you are at in the organization (process / loop / value stream). The following are some process-level examples.**

**Name of the focus process and the achieve-by date**

**1 week - 3 months in the future**

**Desired outcome performance of the process**

**A measure of process performance over time**

Examples:
- Number of items per hour, shift, day or week
- Overtime
- Productivity
- Target Cost
- Quality

**At what rate do we want X to be happening?**

**'Takt Time' or the target rate for a process characteristic**

**Other desired attributes of how you want the focus process to be operating on the achieve-by date**

**Process characteristics such as:**
- Number of shifts
- Amount of downtime
- Number of people
- Number of shifts
- Where 1x1 flow is desired

- Amount of cycle fluctuation
- Inventory amounts
- Production sequence & lot sizes
- Changeover time

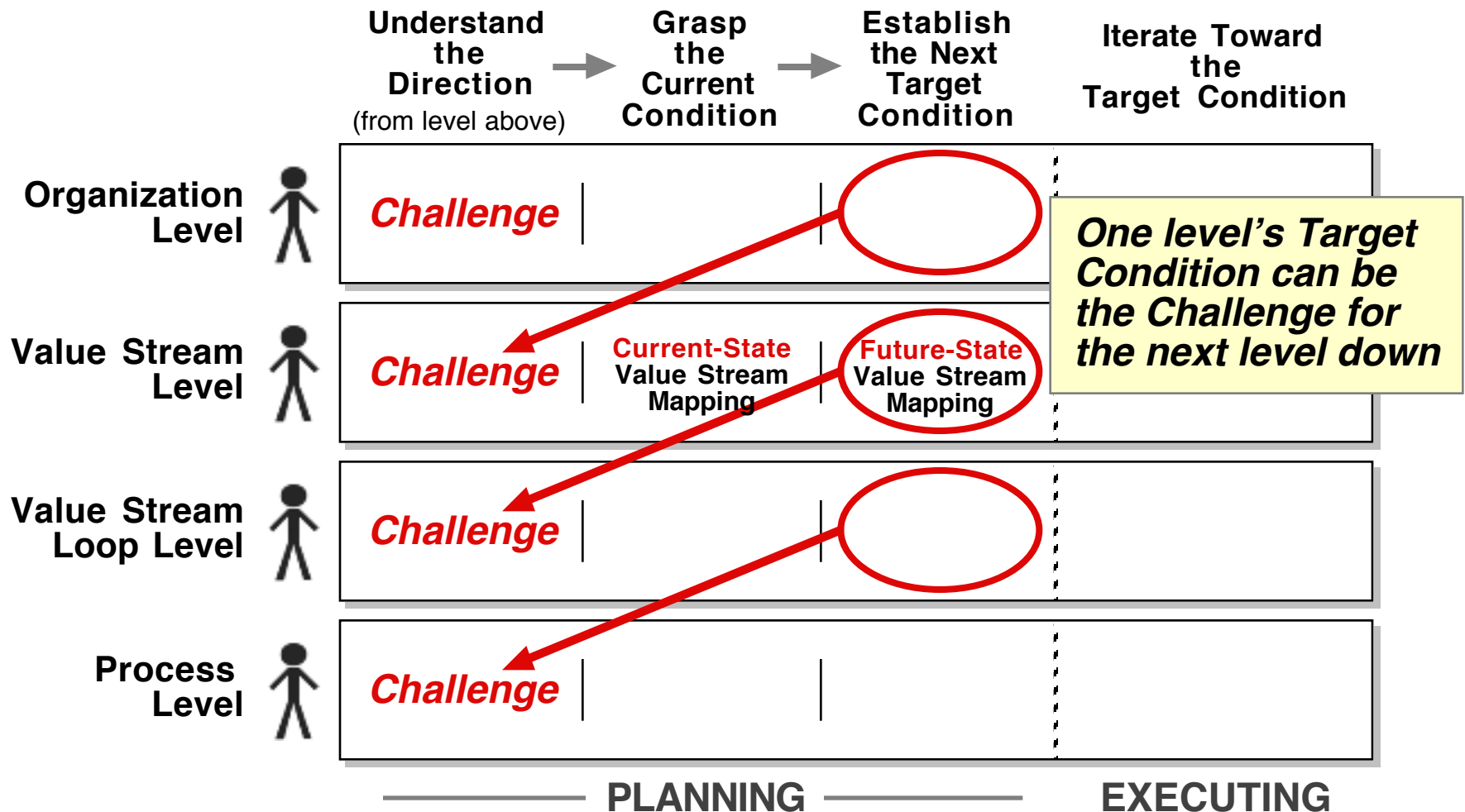| Do **not** put these in a Target Condition | WHY |
|---|---|
| **Do not use words like these in a Target Condition:**<br><br>**"Minimize"  "Reduce"**<br>**"Improve"  "Increase"** | <u>No verbs in a Target Condition!</u>  This forces you to actually describe the conditions you want to have in place when you get there.<br><br>A Target Condition describes a desired pattern at a future point in time, not actions. Transport yourself to the future and state the Target Condition as if you are already there. |
| **These are <u>not</u> a Target Condition:**<br>--> *Have visual boards in every patient room*<br>--> *Apply 5S* (workplace organization & visual systems)<br>--> *Install a barcode system* | <u>These are countermeasures</u>, which should not be confused with a Target Condition. They are more suitable as experiments on the way to the Target Condition.<br><br>First describe attributes of how you want the focus process to be operating on the achieve-by date.  Countermeasures are then developed *as needed* through experiments as you strive to reach that Target Condition. |
| **These kinds of statements alone ≠ a Target Condition:**<br>**"A pull system" (kanban)**<br>**"Milk-run material delivery"** | <u>Not enough descriptive detail.</u>  A kanban or material-delivery system can be a Target Condition, but you need to describe the attributes or pattern of how you want it to operate. |

# Steps to Establishing a Target Condition



1. Review your Challenge

2. Set the TC achieve-by date

3. Define the desired outcome performance

4. Define the desired attributes

5. Start the 'Obstacles Parking Lot'

# TC STEP 1: REVIEW YOUR CHALLENGE

**You should not establish a Target Condition without first understanding the Challenge from the first step of the Improvement Kata pattern. That Challenge is the frame within which Target Conditions should be defined.**

**What is the future-state design for your value stream, and what does your process need to do to make that design possible? Note that oftentimes the Target Condition at the level above you will be the Challenge for your level.**

| | Understand the Direction (from level above) | Grasp the Current Condition | Establish the Next Target Condition | Iterate Toward the Target Condition |
|---|---|---|---|---|
| **Organization Level** | *Challenge* | | ⬭ | |
| **Value Stream Level** | *Challenge* | Current-State Value Stream Mapping | Future-State Value Stream Mapping | |
| **Value Stream Loop Level** | *Challenge* | | ⬭ | |
| **Process Level** | *Challenge* | | | |

*One level's Target Condition can be the Challenge for the next level down*

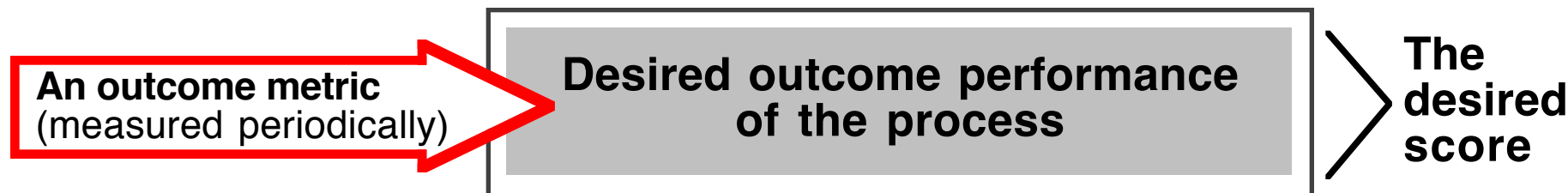PLANNING ————— EXECUTING

# TC STEP 2: AGREE ON THE TC ACHIEVE-BY DATE

The <u>Coach</u> proposes an achieve-by date (level of difficulty) for the Learner's next Target Condition based on the Learner's Improvement Kata skill level. This table is a general guideline.

In the begining shorter is better for learning because then there will be more repetitions of the Improvement Kata pattern.

| Target Condition<br>Degree-of-Difficulty Guideline | | |
|---|---|---|
| Learner's Skill Level | Characteristics of the Skill Level | Maximum TC Achieve-By Date |
| *Expert* | No longer relies on rules / guidelines / maxims<br>Grasp of situations & decision making intuitive<br>Vision of what is possible | **??** |
| *Proficient* | Sees what is most important in a situation<br>Perceives deviations from the normal pattern<br>Maxims vary according to situation | **Target condition ≤ 3 months out** |
| *Competent* | Copes with crowdedness<br>Sees actions partially in terms of LT goals<br>Has standardized and routinized procedures | **Target condition ≤ 1 month out** |
| *Advanced Beginner* | Action based on attributes or aspects<br>Situational perception still limited<br>All aspects are given equal importance | **Target condition ≤ 2 weeks out** |
| *Novice* | Adherence to rules or plans<br>Little situational perception<br>No discretionary judgement | **Target condition ≤ 2 weeks out** |

# TC STEP 3: STATE THE NECESSARY OUTCOME PERFORMANCE

**An outcome metric**
(measured periodically)

**Desired outcome performance of the process**

**The desired score**

Based on the Challenge, there is usually an outcome performance level that the focus process will need to achieve, in order for the Challenge to be met. However, that outcome performance level may be too far away to use in the first few target conditions.

Based on the Challenge + the analysis of the current state + the achieve-by-date either the Learner or the Coach proposes the desired outcome performance to be reached by the achieve-by date.

This outcome-performance element of the Target Condition should be <u>mathematically consistent</u>. That is, the Learner and Coach should derive and be able to show the rationale for the outcome target mathematically.

For instance, if a process's outcome goal is a specific Lead Time number, then this number should come from a calculation that determines what process Lead Time is necessary for achieving the future-state value stream design. Just shooting for a *"50% reduction"* or any other ad-hoc number is not acceptable, and suggests that the Learner is not sufficiently informed about the overarching Challenge.

# THE REMAINING STEPS ARE DONE BY THE LEARNER, IN AN ITERATIVE DIALOG WITH THE COACH



Coach          Learner                              Coach          Learner
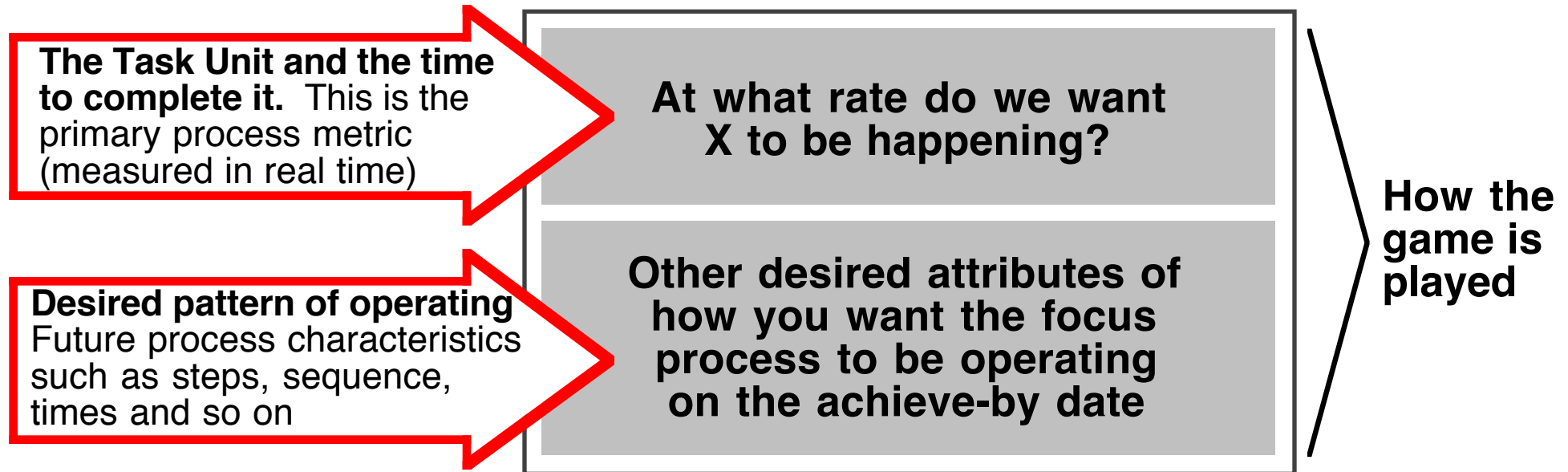
You may think a Target Condition is a goal given to the Learner by the Coach, but that is incorrect. Developing the Target Condition is a back-and-forth process between the Learner and the Coach.

The Learner defines the Target Condition and proposes it to the Coach. The Learner receives feedback from the Coach and fine-tunes the Target Condition accordingly. This process repeats until Coach and Learner come to consensus on the Target Condition. The Learner may have to rethink and adjust the Target Condition several times.

The Coach asks the Learner to use the right side of the Current Condition / Target Condition form that was used in the process analysis, to describe how the Learner would like the focus process to be operating on the achieve-by date.

# TC STEP 4:  DEFINE DESIRED ATTRIBUTES

**The Learner should now develop the target process characteristics and operating pattern, as much as s/he can at this point**

**The Task Unit and the time to complete it.**  This is the primary process metric (measured in real time)

**At what rate do we want X to be happening?**

**Desired pattern of operating** Future process characteristics such as steps, sequence, times and so on

**Other desired attributes of how you want the focus process to be operating on the achieve-by date**

**How the game is played**

**The target process characteristics and operating pattern are a kind of hypothesis that says, *"If I create a process that follows this pattern, then we will get the desired process outcome performance."* The process characteristics and operating pattern are what the Learner will actually be able to influence and work on in order to change the focus process's outcome performance.**

**Remember...  the Learner should avoid thinking of specific solutions at this step of the Improvement Kata.  You are describing how you want the focus process to operate**
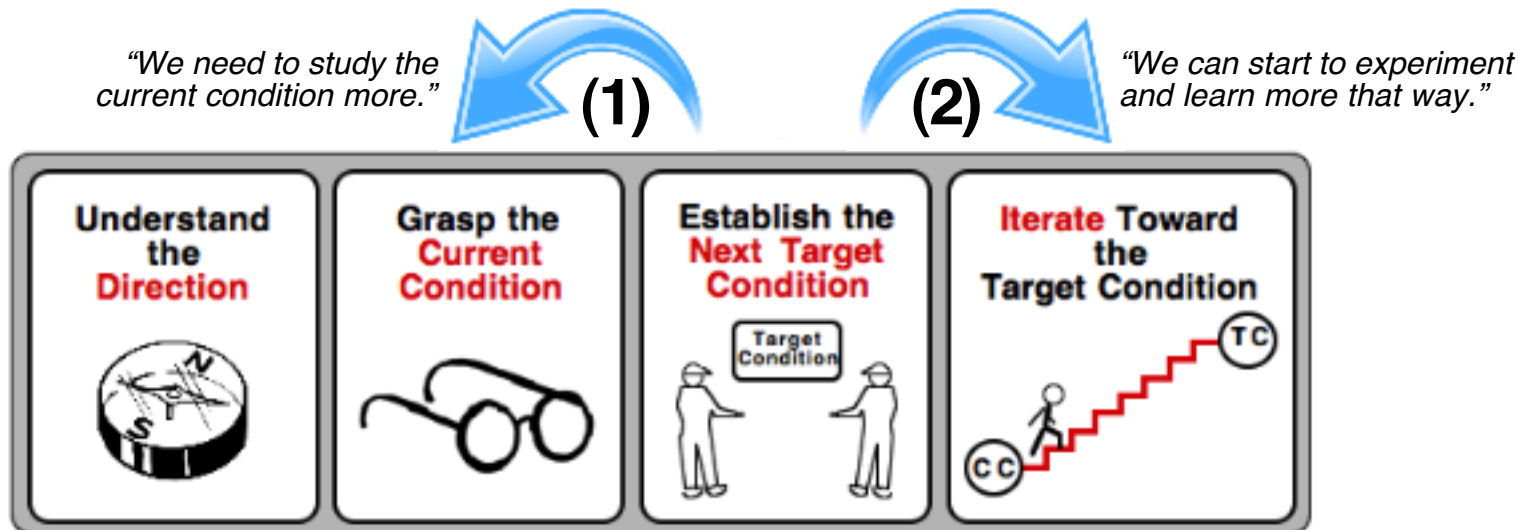
# Caution in Steps 3 & 4
# DON'T CROSS OVER
# THE THRESHOLD OF KNOWLEDGE!

The 'Threshold of Knowledge' (TOK) is the point at which we have no facts & data and start guessing. Don't add items to the Target Condition based on conjecture. When the Learner hits a TOK --> <u>STOP</u>! It's better to say *"I don't know"* or *"not sure."*

You then have two options:

(1) Get more information, for example by additional analysis of the current condition of the focus process.

(2) Leave these parts of the Target Condition blank and flesh them out as you learn more in the experimenting phase of the Improvement Kata.

*"We need to study the current condition more."* **(1)** **(2)** *"We can start to experiment and learn more that way."*

| Understand the Direction | Grasp the Current Condition | Establish the Next Target Condition | Iterate Toward the Target Condition |
|---|---|---|---|

# YOU CAN'T CHANGE A TARGET CONDITION BUT YOU CAN ADD TO IT

Once a Target Condition is established, its content and achieve-by date should not be changed.  This is done so we take time to analyze the current condition, think carefully about the Target Condition and, when the going gets tough, work hard to understand and with creativity get through the obstacles that arise step by step.  This way you achieve a new level of system performance, rather than simply altering the Target Condition.

*Do or do not. There is no try.*  ~ Yoda

But it is OK to leave details out of a Target Condition and add them as you work toward the TC and learn more.  The Target Condition can be fleshed out with additional detail as you experiment and your knowledge of reality increases.

And remember... at any point in the Improvement Kata pattern you can conduct quick side experiments to test ideas and see further.  Incorporate what you learn into the Target Condition.

# YOUR FIRST TARGET CONDITION WON'T BE PERFECT
## Don't worry about getting everything right

Developing a good Target Condition is a skill that comes with experience, and your first Target Condition probably won't be the best.

Since the achieve-by date for a beginner's first few target conditions is short (1-2 weeks) it's OK if you make mistakes in establishing the first Target Condition. This will quickly become apparent and get corrected when you establish the next Target Condition for the focus process. (There's always a next Target Condition.)

It's a good learning experience. Many details come from the experiments in Step 4 of the Improvement Kata pattern. Your knowledge increases on the way to the Target Condition.
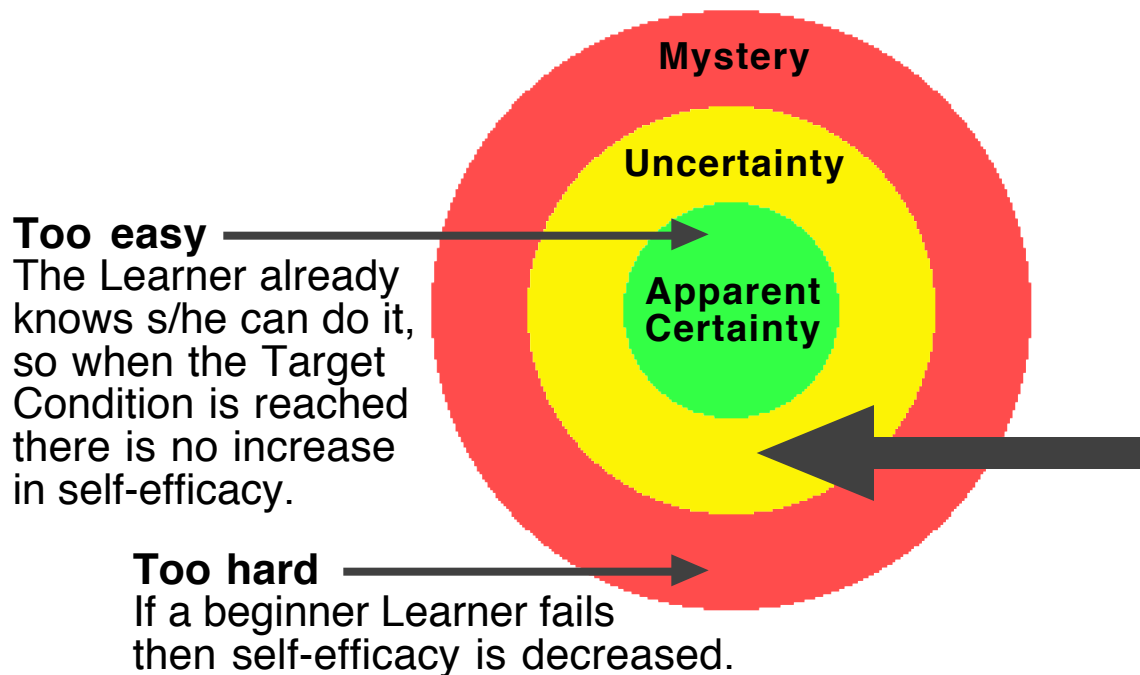
**Learning**          *Now you know more!*

| Establish 1st Target Condition | → | Experiments | → | Establish 2nd Target Condition |
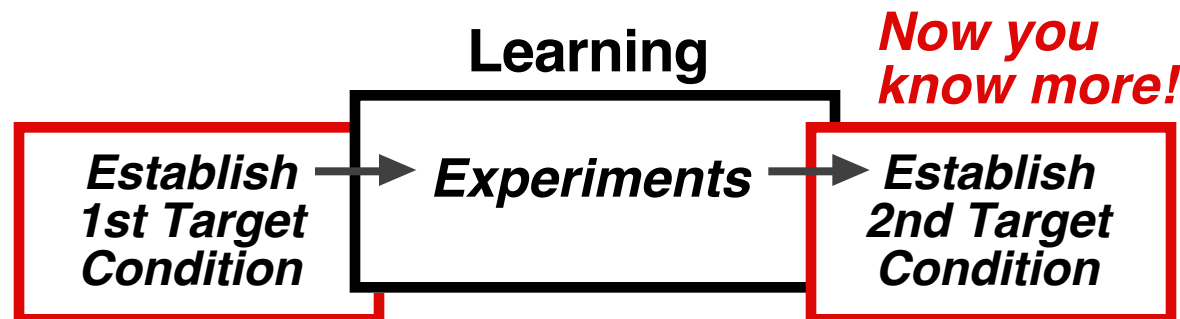
# THE TARGET CONDITION SHOULD NOT BE EASY

## The Coach should consider the Learner's current Improvement Kata skill level, and go just beyond it

A good Target Condition takes the Learner beyond their current Improvement Kata skill level and compels them to learn, grow and adapt. The Coach decides how much of a stretch the next Target Condition should be, trying to have the Learner practice just over the edge of their capability.

Learning a new skill requires stretching and experiencing small failures along the way. That's normal.

**Mystery**

**Uncertainty**

**Apparent Certainty**

**Too easy**
The Learner already knows s/he can do it, so when the Target Condition is reached there is no increase in self-efficacy.

**Too hard**
If a beginner Learner fails then self-efficacy is decreased.

**It's important that the Learner is challenged, so s/he experiences a sense of accomplishment and an increase in self-efficacy.**

---

# TARGET CONDITION PLANNING FORM

## Three versions of the Current Condition / Target Condition form are on the next pages

**Refer to the Current Condition summary on the left side of the form and answer the following questions as you fill out the right side:**

**--> What you will keep the same?**

**--> What do you want to change?**

**Upon completion, you can cut the form where indicated and post the right side of the form in the "Target Condition" field of your storyboard.**

---

# CURRENT CONDITION / TARGET CONDITION

**Challenge:**

| Learner: | Coach: | Process: | Outcome Metric | Process Metric |
|---|---|---|---|---|

| Categories | Current Condition <span style="color:red">Date</span> | Target Condition <span style="color:red">Achieve-By Date</span> |
|---|---|---|
| **Outcome Performance** <br> **(Results)** | *show run chart* | |
| **Process Characteristics and Operating Pattern** <br> **(Pattern of Working)** | *show block diagram* <br> *or* <br> *swim-lane diagram* | |

# CURRENT CONDITION / TARGET CONDITION

Challenge:

| Learner: | Coach: | Process: | Outcome Metric | Process Metric |
|---|---|---|---|---|

| | Categories | Current Condition  <span style="color:red">Date</span> | Target Condition  <span style="color:red">Achieve-By Date</span> |
|---|---|---|---|
| 1 | **Outcome Performance** *(Results)* | *show run chart* | |
| 2 | **Rate of Demand Rate of Production** | | |
| 3 | **Operating Pattern** | *show block diagram* <br> *show all run charts* | *show block diagram* |
| 4 | **Capacity** | *show chart* | *show chart* |
| 5 | **Number of People Required** | | |

# CURRENT CONDITION / TARGET CONDITION
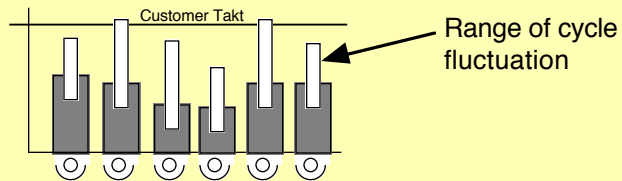
**Challenge:**

| Learner: | Coach: | Process: | Outcome Metric | Process Metric |
|---|---|---|---|---|

| | Categories | Current Condition | <span style="color:red">**Date**</span> | Target Condition | <span style="color:red">**Achieve-By Date**</span> |
|---|---|---|---|---|---|
| **1** Outcome Performance | Actual output / shift | *show run chart* | | | |
| | Overtime? | | | | |
| **2** Rate of Demand & Rate of Production | Takt time | | | | |
| | Pc/t | | | | |
| | # of Shifts | | | | |
| **3** Operating Pattern | Process steps and sequence | *show block diagram* | | *show block diagram* | |
| | Batch size | | | | |
| | Where WIP Accumulates | | | | |
| | Number of operators | | | | |
| | % exit cycle fluctuation (at end of line) | *+ show all run charts* | | | |
| | Other attributes of the process | | | | |
| **4** Capacity | Capacity chart | *show chart* | | *show chart* | |
| **5** People Required | Calculated number of operators | | | | |

# NOTE THAT NOT EVERYTHING HAS TO CHANGE

**Current Condition** → **Target Condition** Including date

*Not everything is changed*
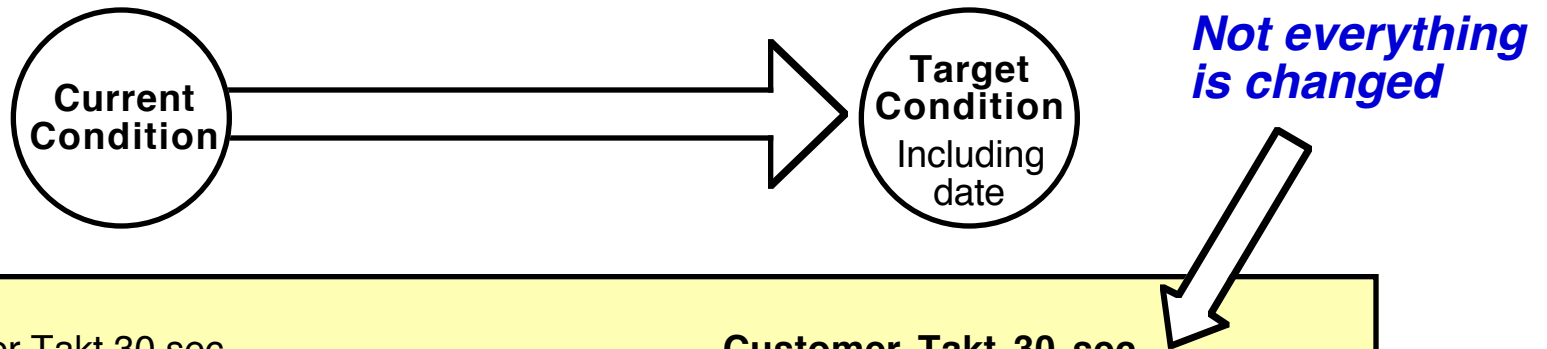
| Current | Target |
|---------|--------|
| Customer Takt 30 sec | **Customer Takt 30 sec** |
| Planned cycle time 25 sec | **Planned cycle time 25 sec** |
| Two shifts + overtime → | **Two shifts, no overtime** |
| Small, varying WIP between workstations → | **1x1 Flow from stations 10 --> 110, 3 pieces SWIP after station 110** |
| 6 Operators, underutilized → | **4 Operators (incl. steps, sequence, times)** |

Customer Takt

Range of cycle fluctuation

Takt
Pc/t
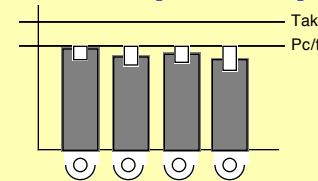
| Current | Target |
|---------|--------|
| Oper. cycle fluctuation +/- 100% → | **Oper. cycle fluctuation +/- 10%** |
| Output cycle fluctuation +/- 70% → | **Output cycle fluctuation +/- 10%** |
| Lot size 3 days | **Lot size 3 days** |
| Output = 650-750 / shift → | **Output = 850 pieces per shift** |

# A MANUFACTURING EXAMPLE

TEAM 1

| Process: MANUAL AXIS ASSY. | Challenge: | | TC date: 12-16-2011 |
| --- | --- | --- | --- |
| | Theme of this TC: | | |

Step 1: Fill in current condition data

**Current Condition** → **Target Condition**

Step 2: Fill in what you will keep the same

Step 3: Fill in what you want to change

**Current Condition:**

Takt time: 30 SECONDS

Pc/t: 25 SECONDS

# of Shifts: 1

Overtime (how much): N/A

Actual output / shift (run chart): 566    883

# of Operators: 10-11    (8.2)

Where 1x1, where WIP: 1X1: BOXING
B/T ASSY + SHARP + BUFF + CLEAN

Describe the process steps, sequence, times: SEE DATA

Exit cycle fluctuation %: ⁻24 ⁺96

Other observations about the current pattern:
* OPERATOR RUNS OUT OF COMPONENTS
* CONVEYOR BACKS UP
* OPERATOR WORK STEPS VARY - SHARP/BUFF

**Target Condition:**

Takt time: 30 SECONDS

Pc/t: 25 SECONDS

# of Shifts: 1

Overtime: NO

Target output / shift: 900

# of Operators: 9

Where 1x1, where WIP: 1X1- SHARP TO BOX
WIP- ASSY ONLY

Describe the process steps, sequence, times:

Exit cycle fluctuation %: ⁻78 ⁺78 %
⁻15 ⁺15 %

| ASSY | SHARP | BUFF | CLEAN | BOX |
| --- | --- | --- | --- | --- |
| B5 | 1X1 | 1X1 | 1X1 | 1X1 |
| ☺-6 | ☺-1 | ☺-1 | ☺-1 | ☺-1 |

Process Metric: EXIT CYCLE AT BOX

Outcome Metric: DAILY OUTPUT

© Improvement Kata Handbook                                    Appendix
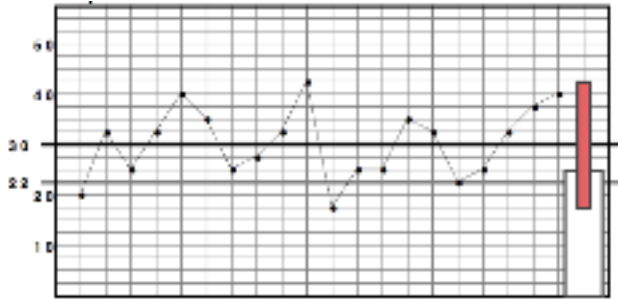
# ABOUT TARGET CONDITION CYCLE FLUCTUATION

There are a few different ways to give a numerical value to the fluctuation / variation you find in process cycles. What's most important is that you can quantify the following:

　　a) Where you are (taken from an exit-cycles run chart)

　　b) How much fluctuation / variation you want to have next

In response to (b) the Learner may say "zero," but that's not possible. Better to say something like:

　　a) *"We currently observe -61% / +24% variation in the process exit cycles"*

　　b) *"By (achieve-by date) we want the varation to be within +/- 15%"*

This sets the Coach and Learner up to go through the Five Questions daily and engage in purpose-driven improvement.

Notice that this is not about in-control / out-of-control -- as in statistical process control -- but simply, *"What variation do we currently have?"* and *"What variation do we want next?"*

---

# YOU SHOULD DEFINE THE DESIRED PROCESS STEPS, SEQUENCE & TIMES AS MUCH AS POSSIBLE

**Use this form, or a swim-lane diagram, etc.**

| WORK STEPS & SEQUENCE | | | | Process: | | | Date: |
|---|---|---|---|---|---|---|---|
| Operator | Operator | Operator | Operator | Work Sequence ① ② ③ | Walking → | Return to Start ◄---- | Standard WIP ● |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

*Workstation*

**Standard WIP**

**10**   **20**   **30**   **40**

*Work step*

*Walking path (dotted = return)*

*Draw the process layout & work steps*

# TC STEP 5:  START THE 'OBSTACLES PARKING LOT'

## These are obstacles relative to the Target Condition

As the Learner establishes the next Target Condition s/he will start to gain insight into some of the obstacles that are in the way.  The Learner should start a simple "Obstacles Parking Lot," which is a list of obstacles that s/he thinks will prevent you from reaching the Target Condition.

Note that there are obstacles that are not yet known, which will be discovered and added to the OPL along the way.

**Obstacle Parking Lot**

| Obstacle | How can you measure that? |
| --- | --- |
| • _____ | _____ |
| • _____ | _____ |
| • _____ | _____ |
| • _____ | _____ |
| • _____ | _____ |
| • _____ | _____ |
| • _____ | _____ |
| • _____ | _____ |
| • _____ | _____ |
| • _____ | _____ |

A photocopy-ready OPL form is in the Appendix.  The Learner should continue to update the OPL on the storyboard as s/he learns more in the 'executing' phase of the Improvement Kata.

# WHAT IS AN "OBSTACLE"?

**Obstacles are <u>problems</u> that appear to be preventing you from reaching the Target Condition... stated as problems. Obstacles are often mistakenly stated as countermeasures or solutions that the Learner already has in mind.**

| | |
|---|---|
| **This is a Countermeasure or Solution** | **This is an Obstacle** |
| "Lack of a standard"<br><br>**Here the Learner is already thinking that they want to implement a standard as a solution. Too soon!** | "Variability in how the work is done" |

# PURPOSE OF THE OBSTACLES PARKING LOT

**Obstacle Parking Lot**

| Obstacle | How can you measure that? |
|---|---|
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

**Do not Pareto this list and do not turn it into an action-item list! It's simply a place to note and hold perceived obstacles, which you may or may not work on.**

**The obstacles you actually work on and the steps you actually take will be determined through your experiments in the next step of the IK pattern.**

**The purpose of the Obstacles Parking Lot is:**

1) **To bring in the reality that this will not be easy.**

2) **To help the Learner understand that they shouldn't tackle several obstacles at once. The OPL helps prevent the Learner from going after several issues or ideas simultaneously, which is usually an unscientific approach.**

3) **To help the Learner recognize the limits of prediction and perception. Some perceived obstacles will turn out to not be obstacles, and other obstacles will arise along the way.**

# *OBSTACLE* IS A GOOD WORD TO USE

**When we visualize the struggle we may actually be more motivated than if we just visualize the Target Condition**

Practicing the Improvement Kata pattern is not supposed to sound easy like... problem -> cause -> countermeasure -> check -> sustain and then you have a new state. That sort of unrealistic thinking tends to keep us inside our current knowledge thresholds.

Overcoming obstacles on the way to your next Target Condition helps develop self-efficacy. Failed experiments there are normal and help develop a useful humbleness.

Being mindful of the overall Challenge, the Current Condition, the next Target Condition *and* of real obstacles that are in the way to that Target Condition is a good setup for working effectively toward your goals.

*How we visualize what we will be undertaking is important, but what happens once we get started may be even more important.  That's the subject of the next step of the Improvement Kata pattern and of the next chapter!*

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# Target Conditions for Office & Service Processes
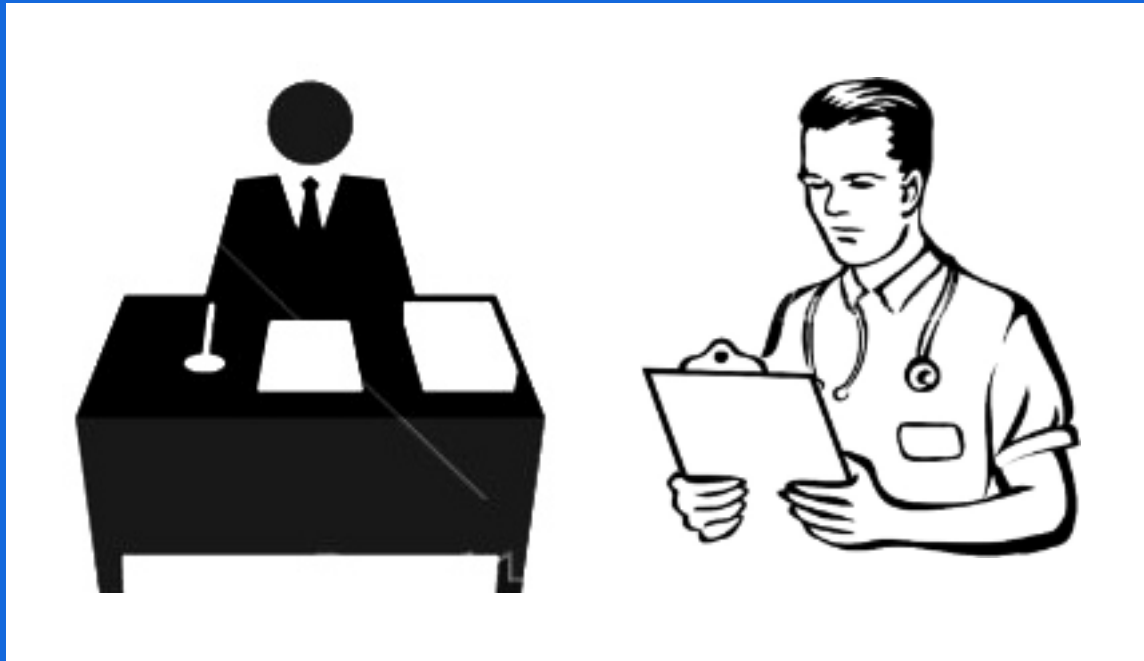
# ESTABLISHING A TARGET CONDITION
# FOR OFFICE AND SERVICE PROCESSES
## Suggestions for processes where the work content varies

- Keep in mind that all you are trying to do is define a *pattern* of working to then iteratively (scientifically) strive to achieve.

- In administrative processes the sequence and volume of work is often variable. A useful tactic is to set a "pitch" as a framework. This means establishing a target pattern by fitting work into consistent-sized time increments at set times (a "pitch").

   For example, instead of releasing work to an administrative process by natural customer orders -- whereby the amount and timing of work can vary greatly -- release work in equal portions to fill that consistent, scheduled time increment or "pitch."

   The pitch is not a "takt time" calculation, but simply an intelligently-selected time increment. An example might be *three applications processed every day from 1-2PM.*

- Note that this is not something to simply be implemented or forced on the operators, but a *target condition* you work toward iteratively by seeing and overcoming obstacles to it. You're establishing what you want to be happening in that pitch increment, so you can see what you need to work on to get there.

# ESTABLISHING A TARGET CONDITION
# FOR OFFICE AND SERVICE PROCESSES
## (continued)

- One tactic is to classify work by type and only do one type per pitch, or release a mix that fits the time-frame of the pitch increment. Three categories, **small/medium/large** or **regular-daily/project/sporadic** are often sufficient.

- Your initial target condition doesn't have to be perfect.  Once you have a first basic target pattern, it's a matter of applying PDCA (coached daily with the 5 Coaching Kata Questions) to find and break through obstacles that are preventing you from getting  there.

  As you do that you'll learn more about the patterns in the work, which you can integrate into the next target condition. Eventually, after you discover and remove enough obstacles that cause variability, you may be able to better understand patterns in the customer demand and even calculate a takt time for this work.
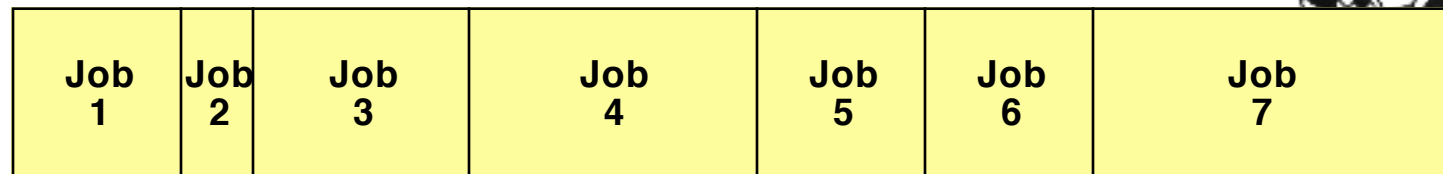
# Office & Service Processes
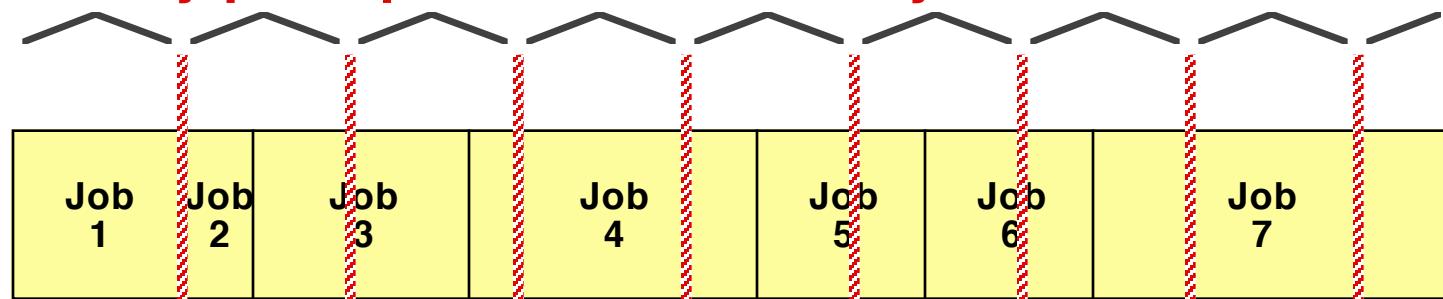# DEFINE A TARGET PATTERN
# OF TIME/WORK PITCHES

**Pattern hard to see.  Random chasing after problems.  No target condition to strive for.**

*How the work arrives*

| Job 1 | Job 2 | Job 3 | Job 4 | Job 5 | Job 6 | Job 7 |
|-------|-------|-------|-------|-------|-------|-------|

**A daily pitch pattern to iteratively strive toward.**

*Work split into consistent increments*

| Job 1 | Job 2 | Job 3 | Job 4 | Job 5 | Job 6 | Job 7 |
|-------|-------|-------|-------|-------|-------|-------|

**Don't worry about the increments being perfect at the start. Define a target increment, make that part of your target condition, and start asking the Five Coaching Kata Questions.**

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