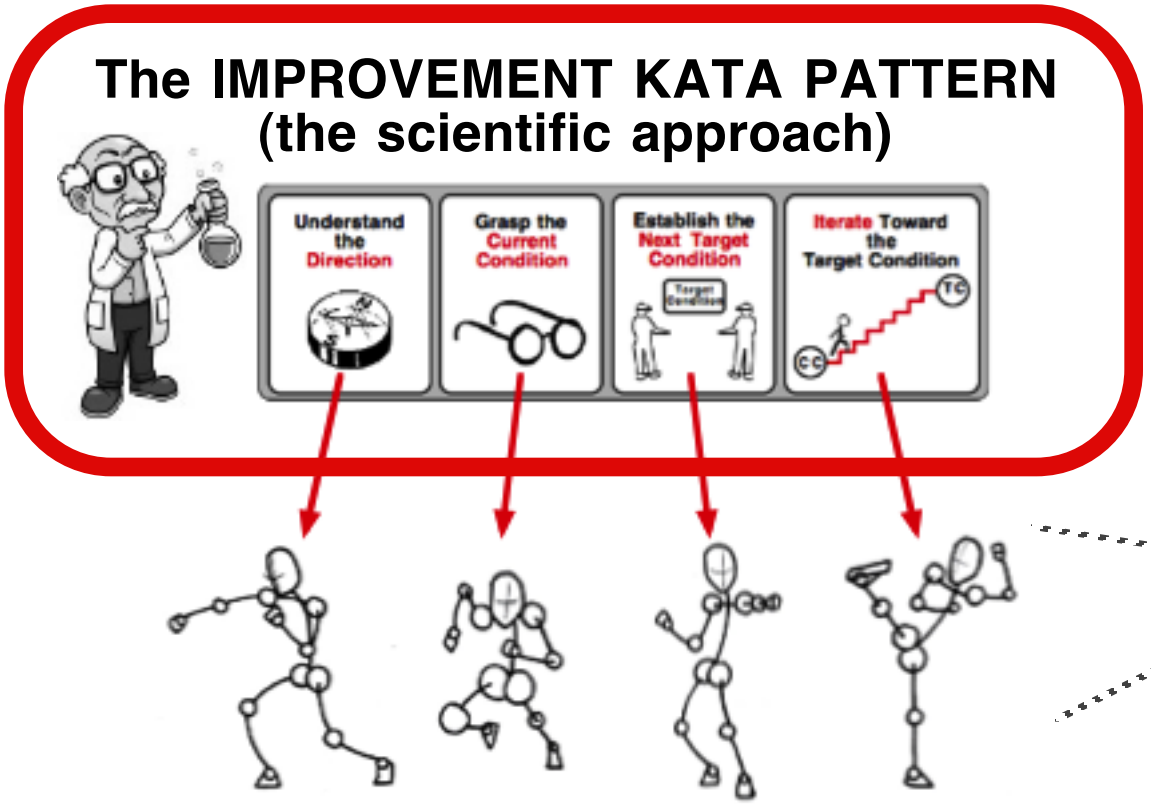
PART I: Getting Started

Chapter 1

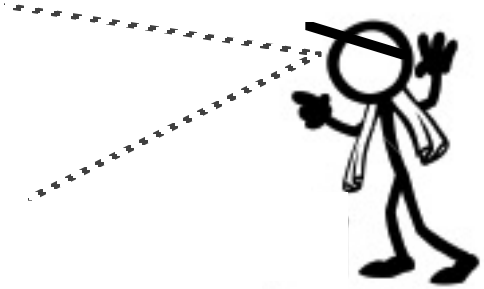
THE IMPROVEMENT KATA PATTERN

WHAT THIS CHAPTER IS ABOUT



This chapter goes over the Improvement Kata pattern, which is the overall pattern of thinking and acting we're trying to achieve.

There are specific PRACTICE ROUTINES to acquire / develop the scientific pattern of thinking and acting



The COACHING KATA is a practice routine for learning how to teach the Improvement Kata pattern

The practice routines for learning and teaching the Improvement Kata pattern are covered in PART II and PART III of this Handbook.

THE IMPROVEMENT KATA PATTERN MODELS THE CREATIVE PROCESS

The Improvement Kata is a model of an effective, universal human pattern for improving, adapting and innovating.

You could call it:

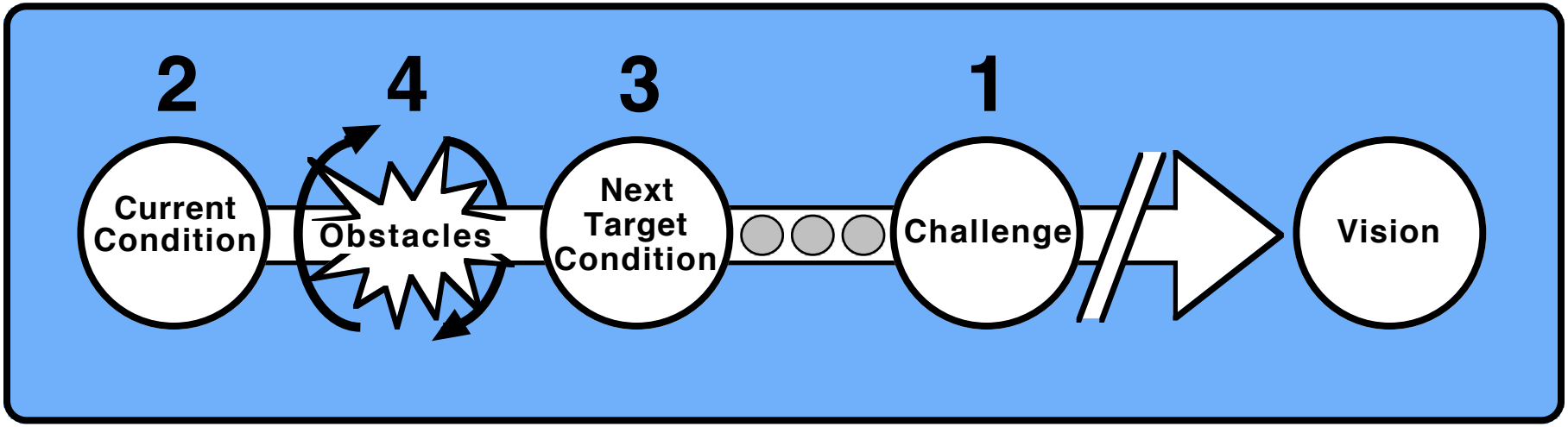
Improvement Pattern
Striving Pattern
Creative Pattern
Design Pattern

The pattern represented by the Improvement Kata model has probably been around for as long as humans have been around. Scientists and entrepreneurs use it every day.

However, this pattern is not the natural or default way that most adults think and act.

IT'S ABOUT LEARNING TO WORK SCIENTIFICALLY

The Improvement Kata is a 4-step pattern you practice to make systematic, scientific, creative striving a habit, which makes you more effective at achieving challenging goals in complex, dynamic conditions



AS ILLUSTRATED ABOVE, THE 4 STEPS ARE:

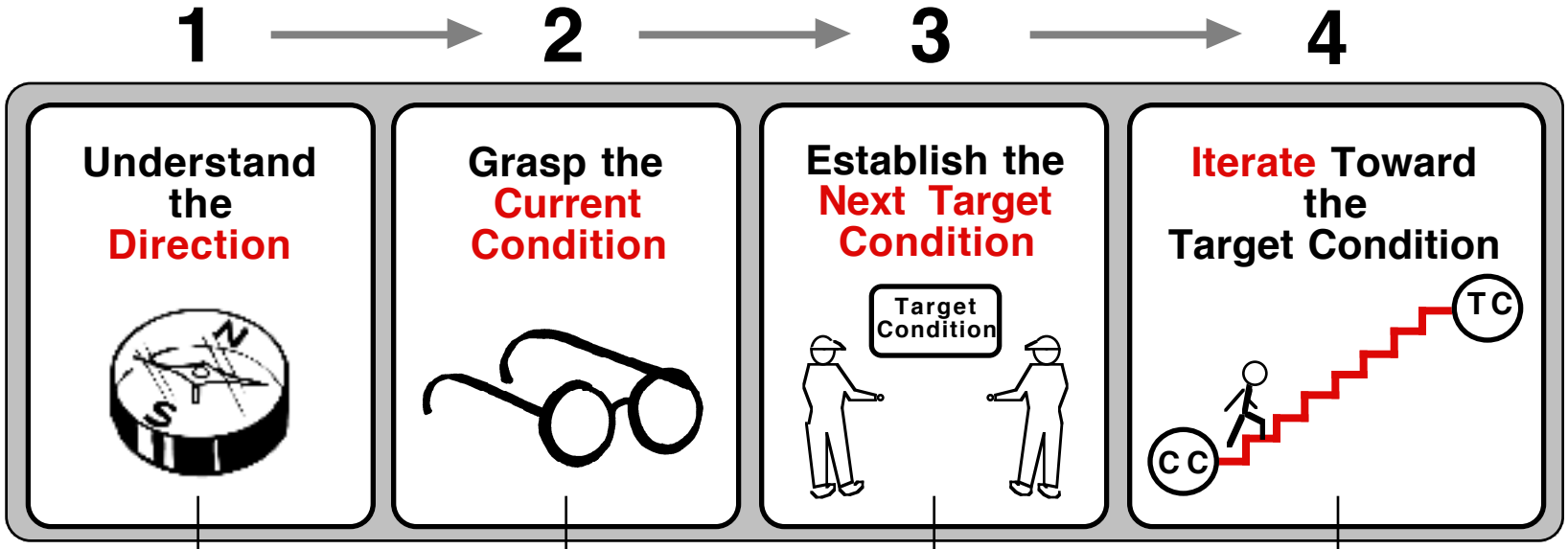
Step 1: In consideration of a direction or challenge...

Step 2: Grasp the current condition.

Step 3: Define the next target condition.

Step 4: Move toward that target condition iteratively, which uncovers obstacles that need to be worked on.

HERE ARE THE STEPS OF THE IMPROVEMENT KATA, IN SEQUENCE



What challenge are we striving to meet?

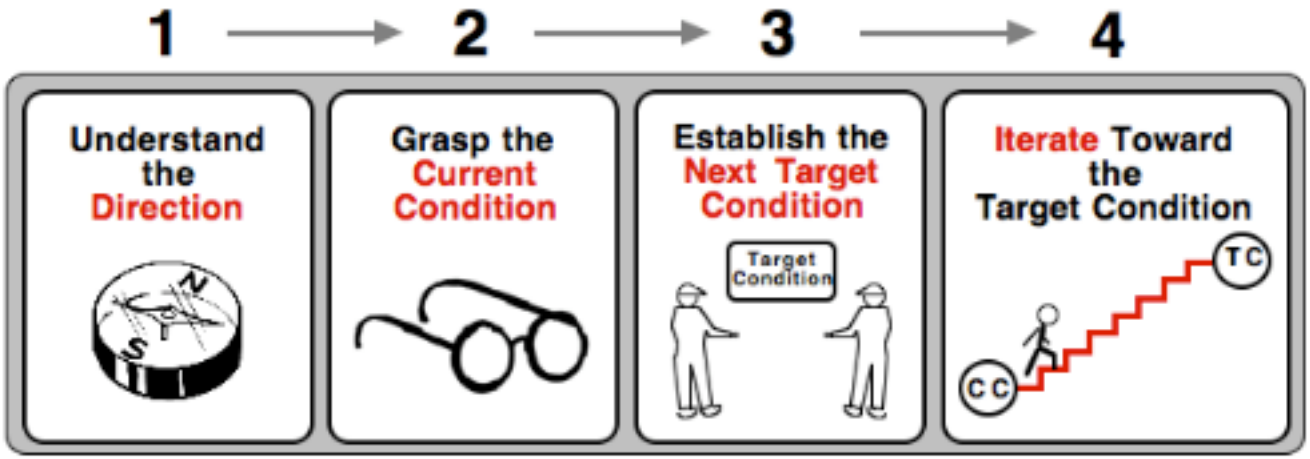
What is the current pattern of operating?

What pattern of operating do we want to have next?

A step-by-step discovery process between where we are and where we want to be next.

There are practice routines for each of these steps. Those practice routines are described in this Handbook.

Let's first take a closer look at the overall pattern of the Improvement Kata



The illustrations on pages 13-18 and 20-21 are based on illustrations by Bill Costantino

HOW DO ADULTS IN GROUPS (IN TEAMS & ORGANIZATIONS) TEND TO REACT TO A PROBLEM OR HANDLE A GOAL?

Whether in business, politics or daily life, we often think the best way is to **deliberate over the correct answers and arrive at a consensus**. (E.g., *"Let's have a meeting."*)

Unfortunately this unsystematic and unscientific approach is useful only in simple cases where the same path has been traveled before. It's not a good way of tapping our human learning capability and handling more complex and dynamic situations. It often leads to ineffective responses.

Why the *deliberating* approach often fails in situations that are complex, dynamic or new:

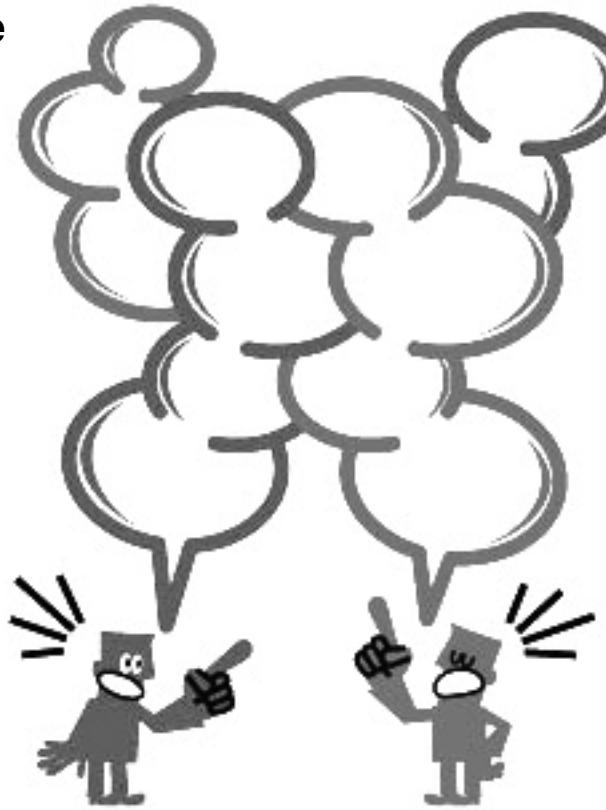
--> We're debating from inside our current threshold of knowledge. You don't know what you don't yet know.

--> Our neural mechanisms are tuned to focus on the immediate surface aspects of situations.

--> Our brain tries to make sense of unfamiliar information by automatically filling in the blanks.

--> Complexity & unpredictability overwhelm our brain's processing resources.

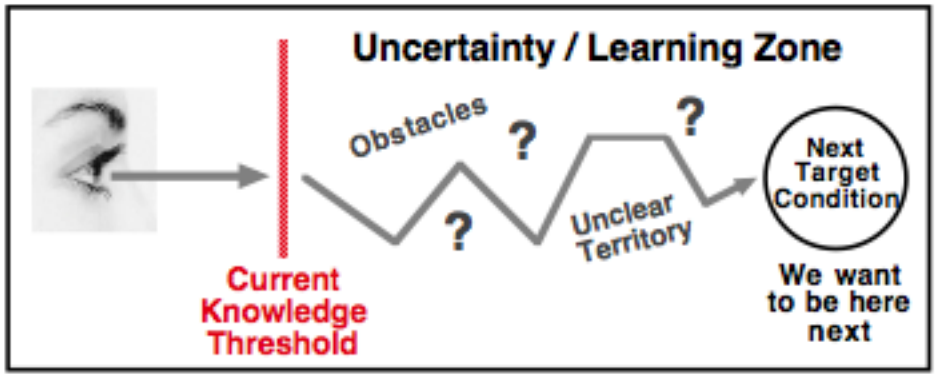
--> We tend to state untested assumptions as facts.



A more effective way of thinking and acting can be taught, but it takes practice (experiential learning)

IT'S UNSCIENTIFIC

Deliberating over answers beyond your knowledge threshold is flying blind. There's a grey zone between where you are and where you want to be next, and the path can't be deterimined in advance by logic and reason. You need to experiment. Scientists are constantly adding to knowledge.



IT'S UNSYSTEMATIC

Stabbing at problems in the hope that something will work is not a methodical procedure.

IT'S BIASED

We don't realize how extensively our unconscious predispositions, natural mental shortcuts and beliefs influence how we see, think and react. The brain is a great servant but a poor master.

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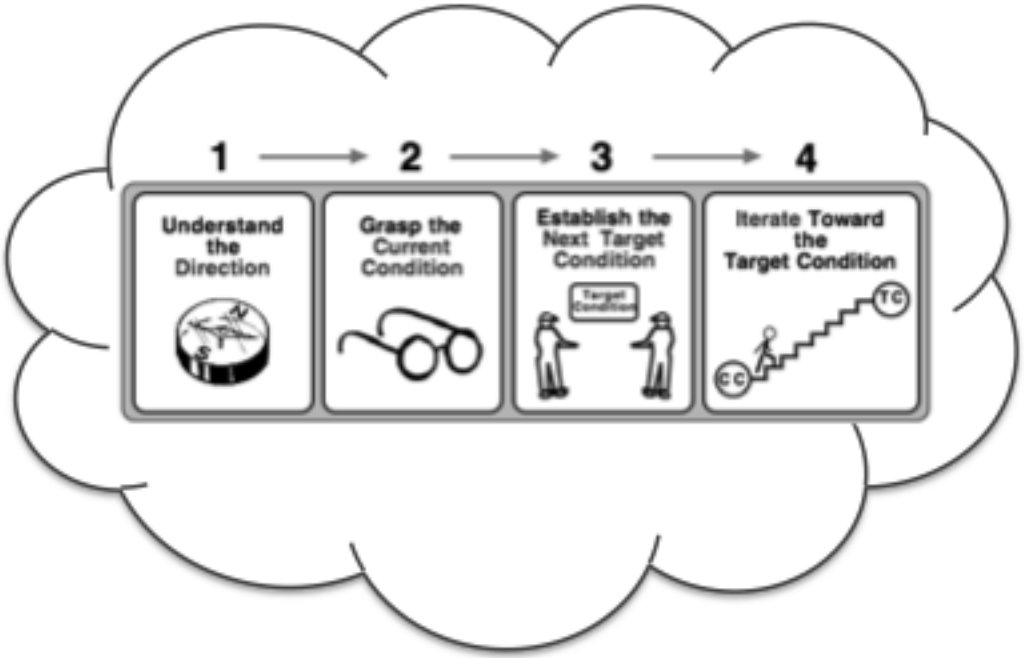
IT'S UNCREATIVE

If you're just reacting to problems, rather than proactively striving for something, entropy wins.

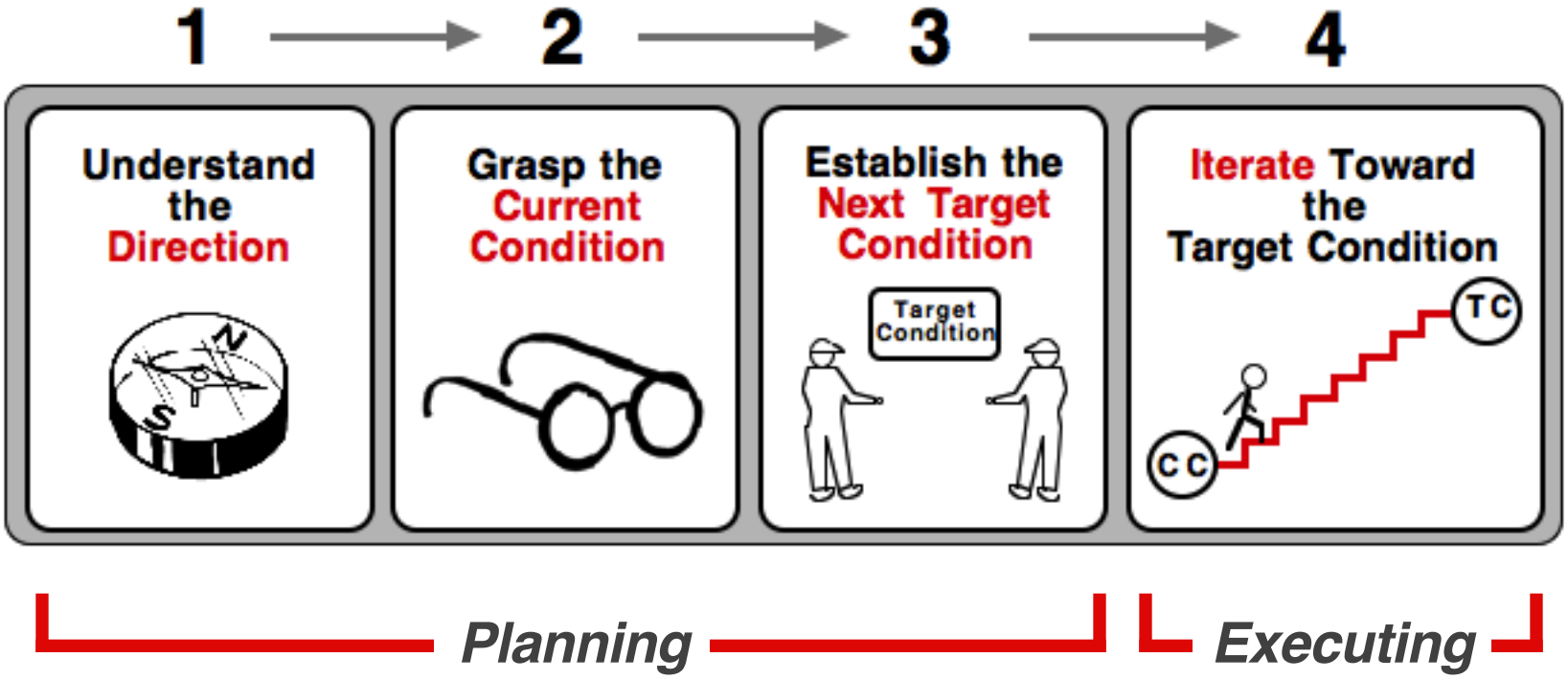
THE IMPROVEMENT KATA IS A SYSTEMATIC AND SCIENTIFIC APPROACH

Like any scientist, one of the few things we can *actually know* is the method we use. There's always a **Threshold of Knowledge** around us, so it's impossible to make completely accurate predictions about the future. This is especially true in complex, interconnected systems. But with the pattern of the Improvement Kata you have a method for navigating that territory.



THE IMPROVEMENT KATA IS A FOUR-STEP PATTERN, IN TWO PHASES: A *PLANNING* PHASE AND AN *EXECUTING* PHASE

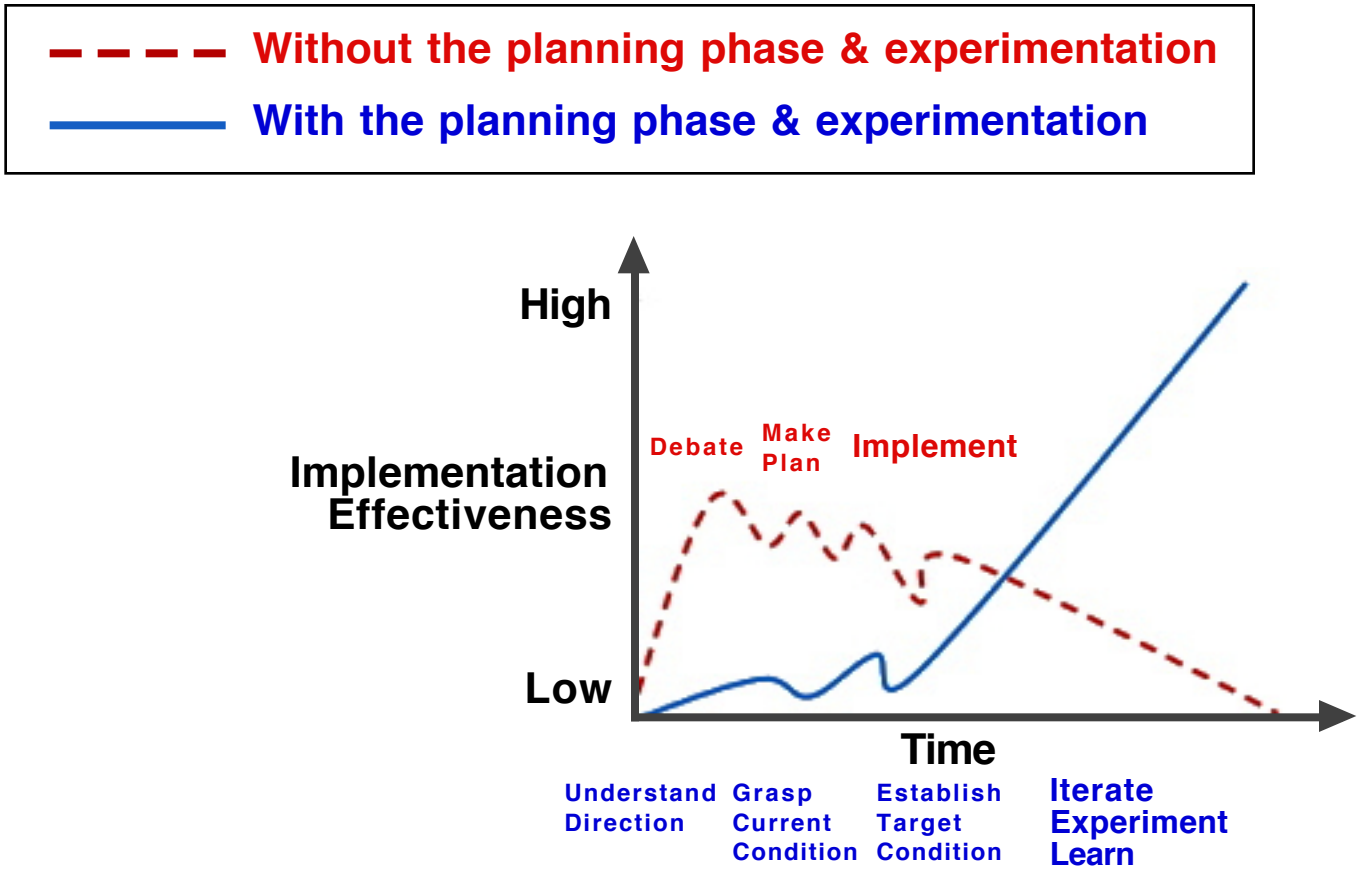
Note, however, that "planning" in this case is different from what you might think of as planning. It's not about just making an action plan. Gaining the perspective and understanding that the first three 'planning' steps of the Improvement Kata provide is a foundation for the 'executing' phase. One of the most common mistakes is trying to get into the Executing phase too soon; too hastily moving ahead based on preconceptions instead of taking time to analyze and learn more about the situation.



THE PLANNING PHASE: GOING SLOW TO THEN BE FAST & FOCUSED

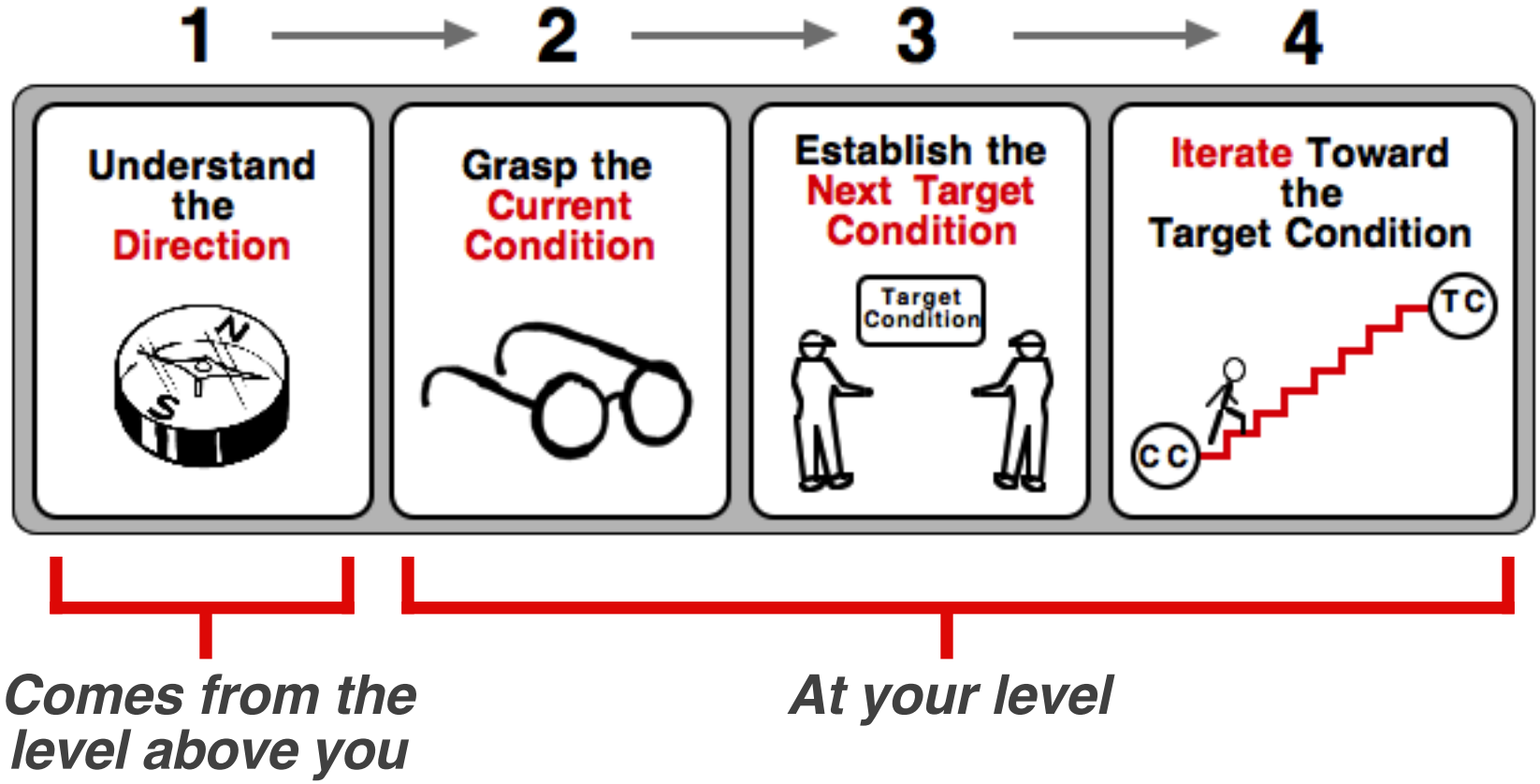
Many teams quickly get into implementation action, for a supposed time savings. But in such cases the team's effectiveness often follows the dotted red line in the graph below. In contrast, the Improvement Kata approach looks more like the blue line in the graph.

The Planning phase of the Improvement Kata involves (a) getting some clarity about the overarching challenge, (b) digging deep to better understand the current condition and then (c) establishing an appropriate next goal. This helps move you more comfortably into the zone of uncertainty where you apply your creativity by viewing the steps you take as experiments from which you learn.



THE IMPROVEMENT KATA INVOLVES LINKED GOALS

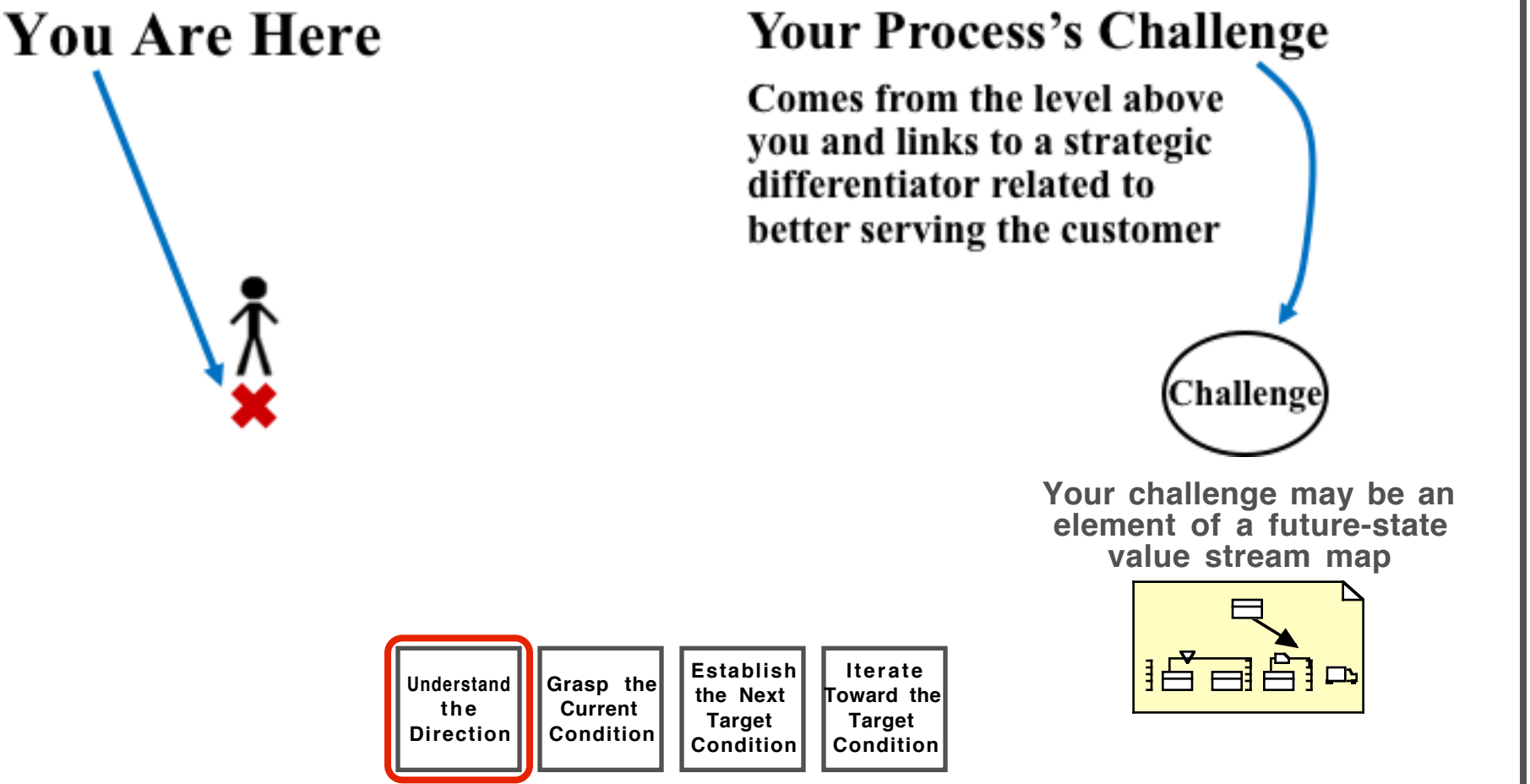
The pattern of the Improvement Kata is a fractal / scalable pattern that's utilized at each level of an organization. **STEP 1** of the Improvement Kata model ("Understand the Direction") entails understanding the target condition from the level above you. (Ultimately this is linked to a high-level strategic objective or challenge.) **STEP 3** of the Improvement Kata involves defining the next target condition at your level, in the direction determined in the first step.



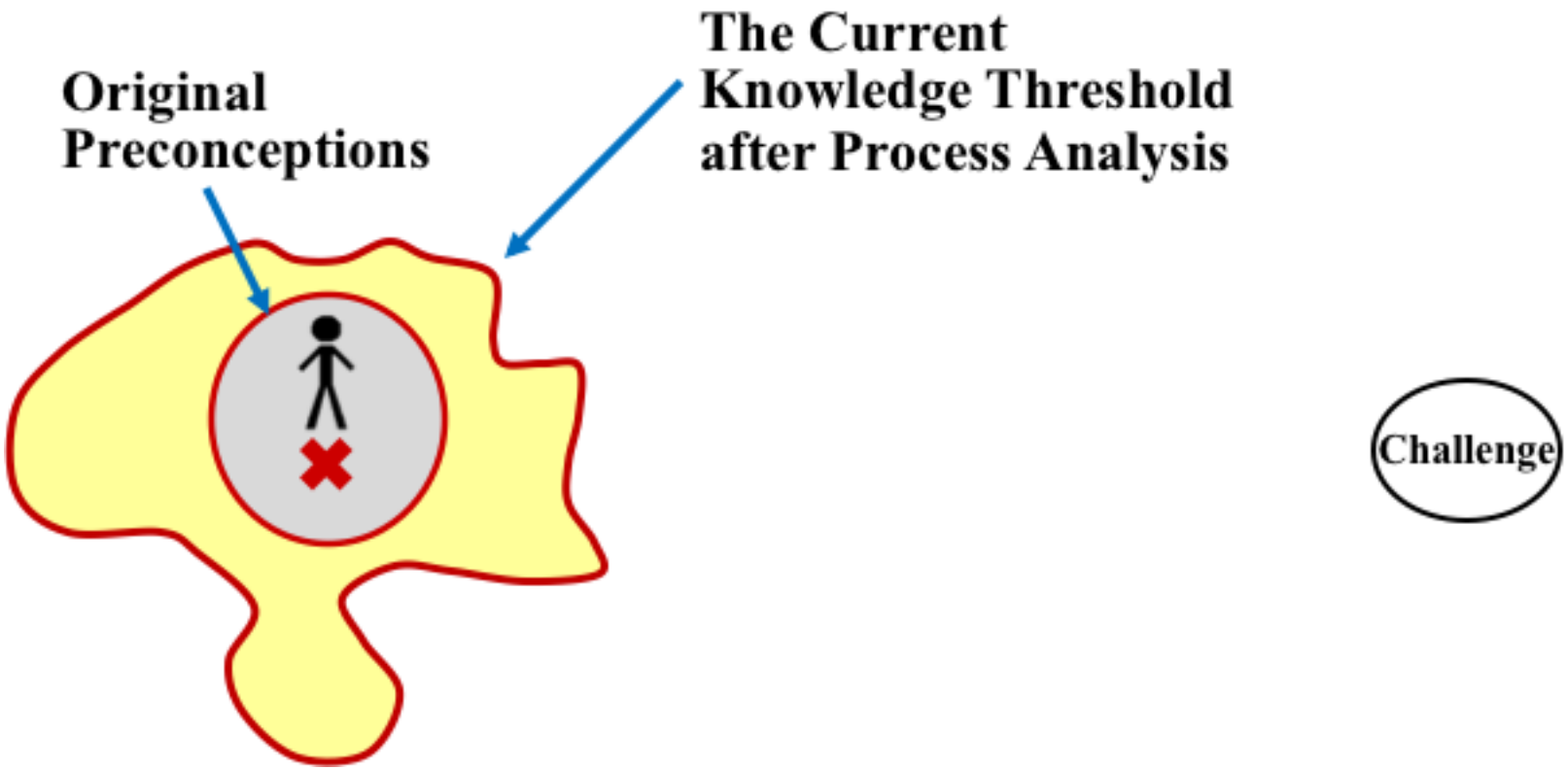
PLANNING PHASE - *Where Do We Want to Go?*

STEP 1: UNDERSTAND THE DIRECTION. A challenge is set, beginning at the organization or value-stream level. This overarching challenge is a strategic differentiator that relates to better serving the customer, and may come from a future-state value stream map. It provides an overarching objective and rallying point for individual process improvement efforts inside the organization.

The challenge *at your process* is the target condition from the level above you. So the overarching challenge gets broken into successively smaller elements as you move down the organization.



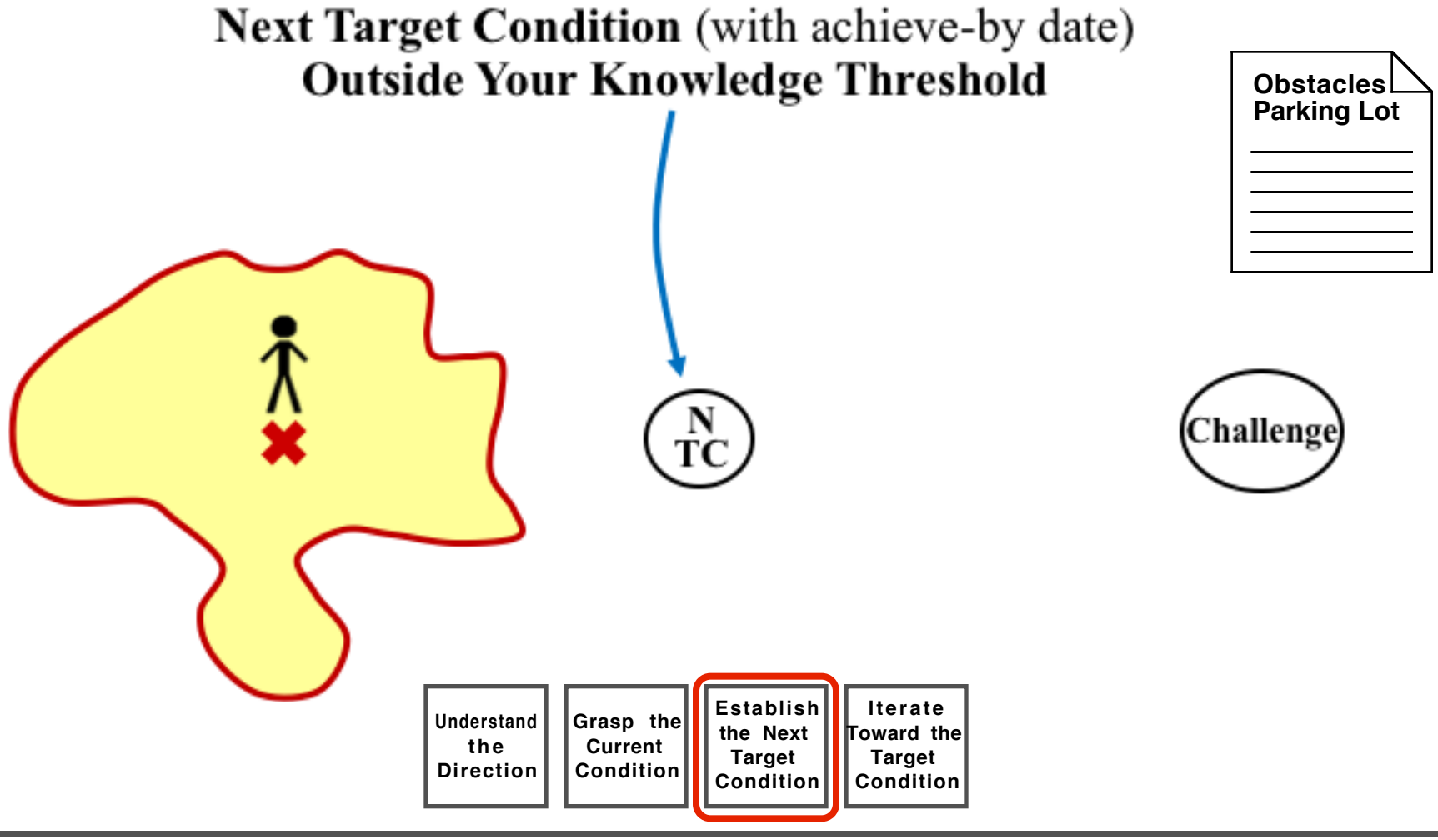
STEP 2: GRASP THE CURRENT CONDITION. Once the direction coming from the level above you is understood, study the current condition of your focus process in detail following the steps of the Process Analysis Kata, which helps you see beyond your preconceptions as you analyze a process. The results of this analysis are an input into defining the next Target Condition, and represent your **Current Knowledge Threshold** about the work process you're looking at.



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

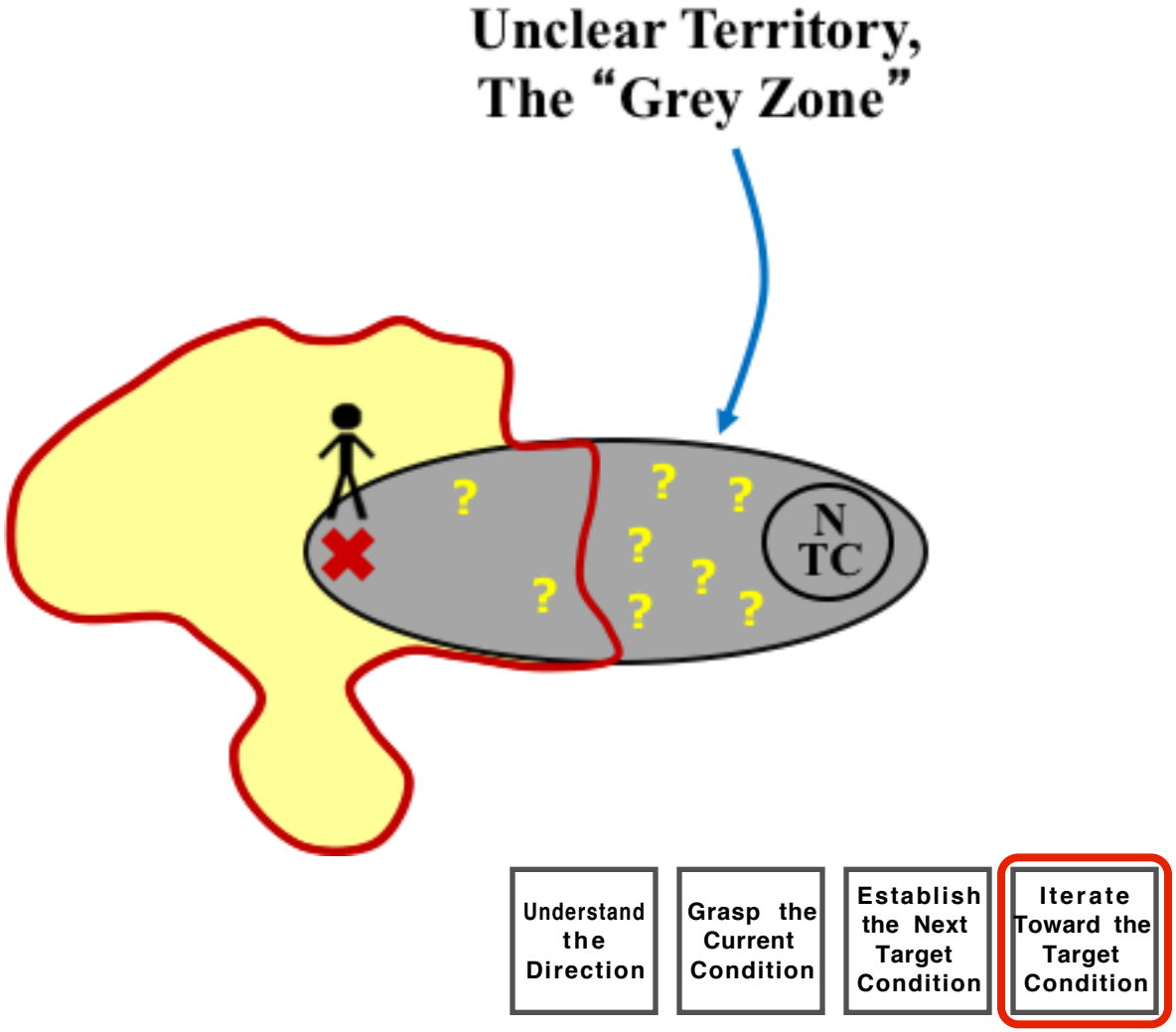
STEP 3: ESTABLISH THE NEXT TARGET CONDITION. The purpose of studying the current condition is to obtain the facts and data you need in order to establish a descriptive and measureable target condition at your level, in the direction of the challenge.

The target condition lies outside your current knowledge threshold and has a specified achieve-by date that's between 1 week - 3 months out. The target condition describes in some detail how you would like the focus process to be functioning on that achieve-by date. Once you have a target condition you begin to see Obstacles to achieving it, which are noted in the Obstacles Parking Lot.



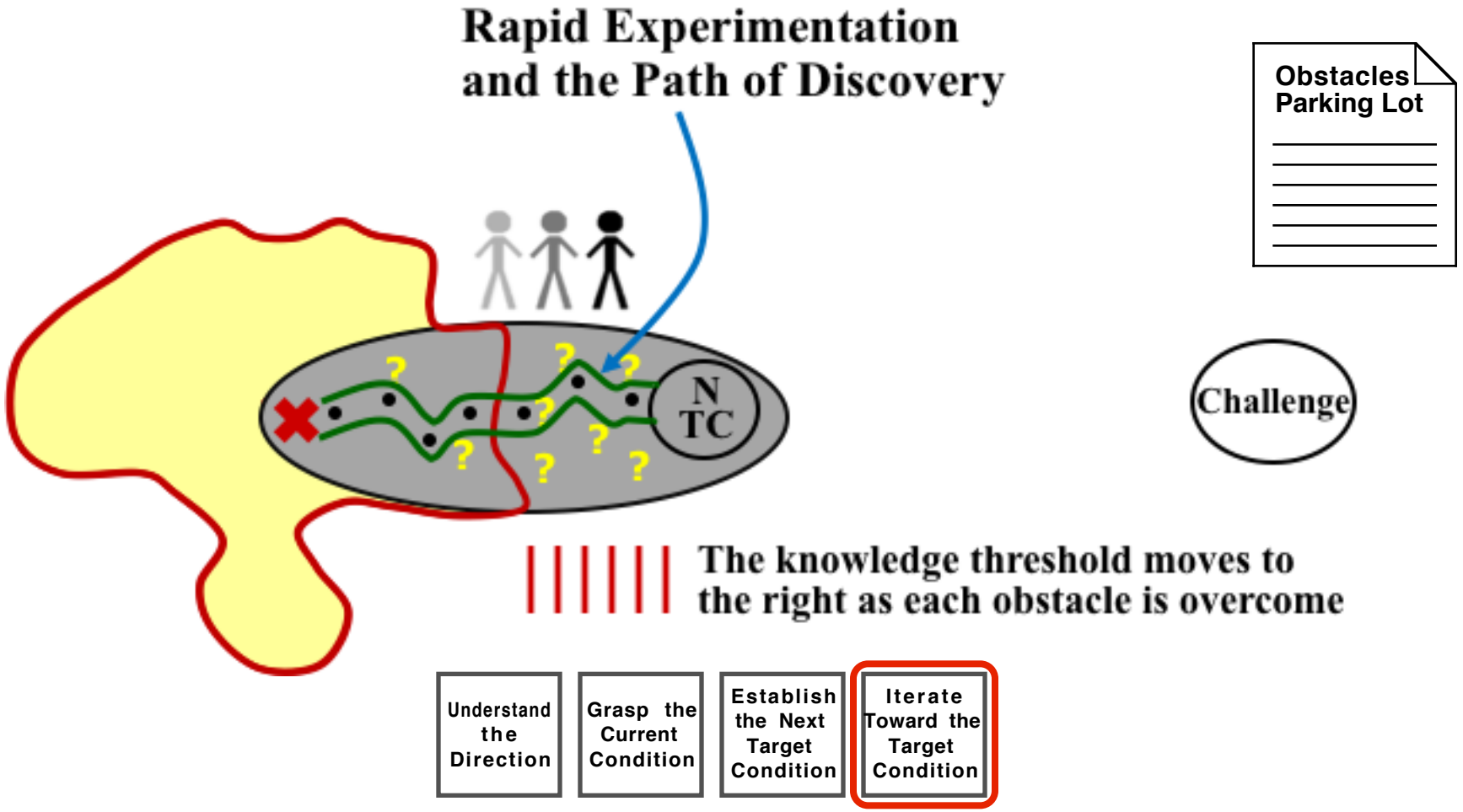
EXECUTING PHASE - *How to Get There*

NOW THERE IS THE GREY ZONE. You don't know exactly how you're going to get to the target condition by its specified achieve-by date. The grey zone is a learning zone.

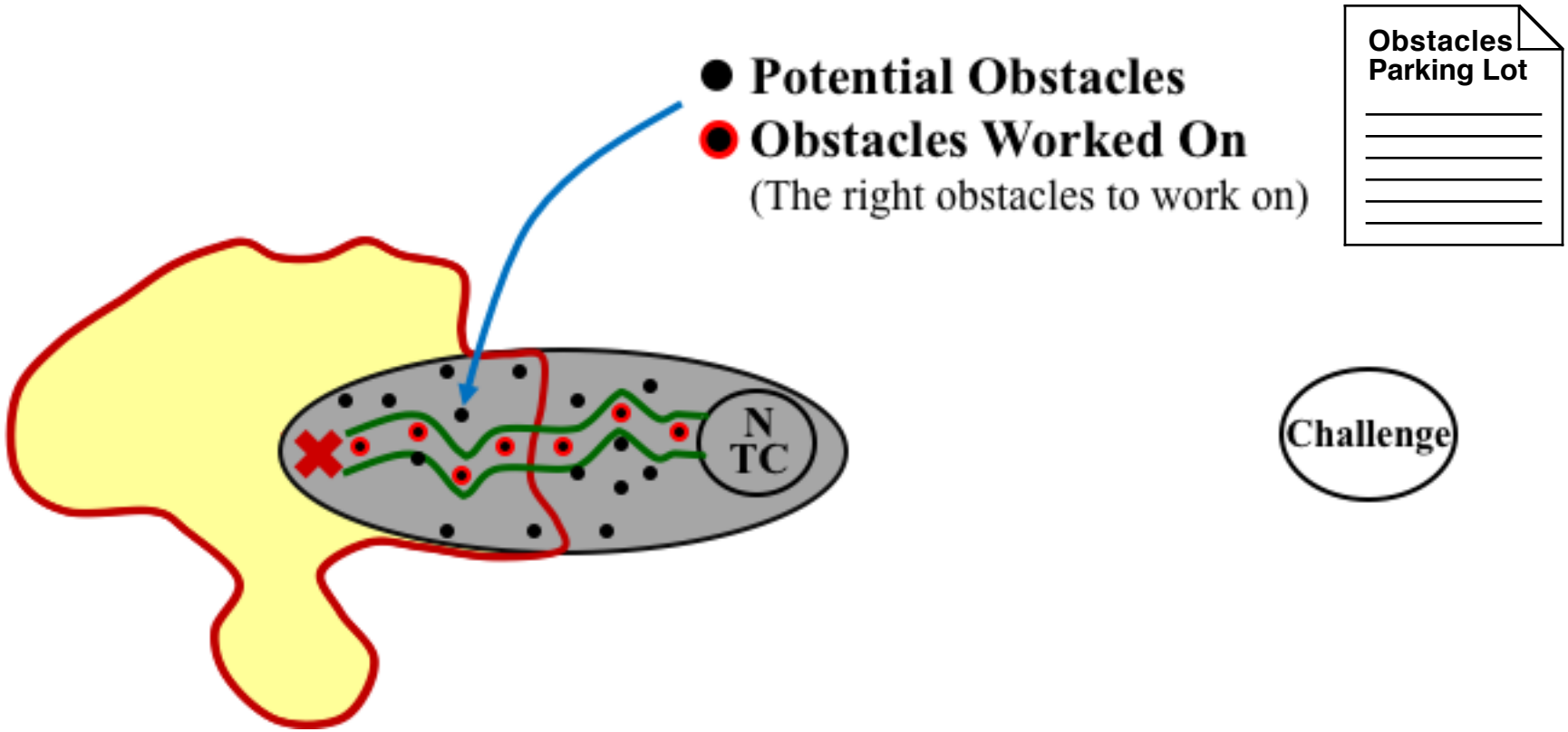


STEP 4: ITERATE TOWARD THE NEXT TARGET CONDITION. Two daily routines are used here: The PDCA Kata (rapid experimenting) by the **Learner**, and the Coaching-Cycle Kata (**Coach**).

More obstacles appear in this phase of the Improvement Kata, due to the learning via experiments. Many obstacles are not visible in the planning phase. The team works on one obstacle at a time. You're looking for the most direct path through the field of obstacles to the next target condition, which won't be a straight line. You're in a mode of rapid learning and discovery, adjusting your course based on facts & data gained through experimenting. The threshold of knowledge moves with each experiment.



THERE'S NO NEED TO WORK ON EVERY POSSIBLE OBSTACLE. You only need to overcome those obstacles that you find are preventing the process from operating in a way consistent with the next target condition. From each experiment you gain new information and adjust your next step accordingly, to iteratively find your way to the target condition by the achieve-by date. The obstacles parking lot is continually updated, revealing how flawed our preconceptions can be.

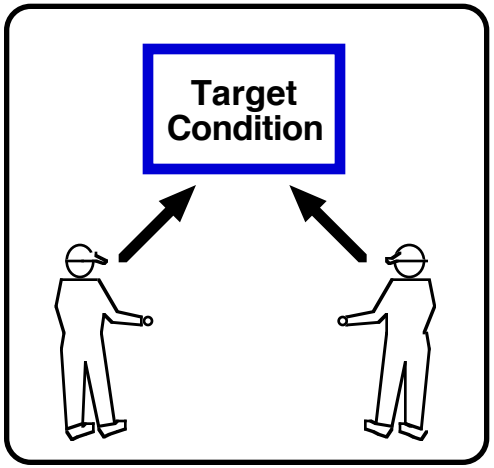


WHAT *CAN* WE IMPROVE? versus WHAT DO WE *NEED* TO IMPROVE?

Simply asking people, *"What can we improve?"* is not an effective way of continuously improving, generating teamwork and empowering people:

- Everyone's viewpoint is naturally limited and biased
- We quickly get overwhelmed with diverse action items going in different directions
- There's only limited time available each day for working on improvement

With the Improvement Kata a team instead focuses on what it *needs* to do to improve. This involves working on only those obstacles that the team finds are *actually* preventing the team from moving from its current condition to the next target condition.

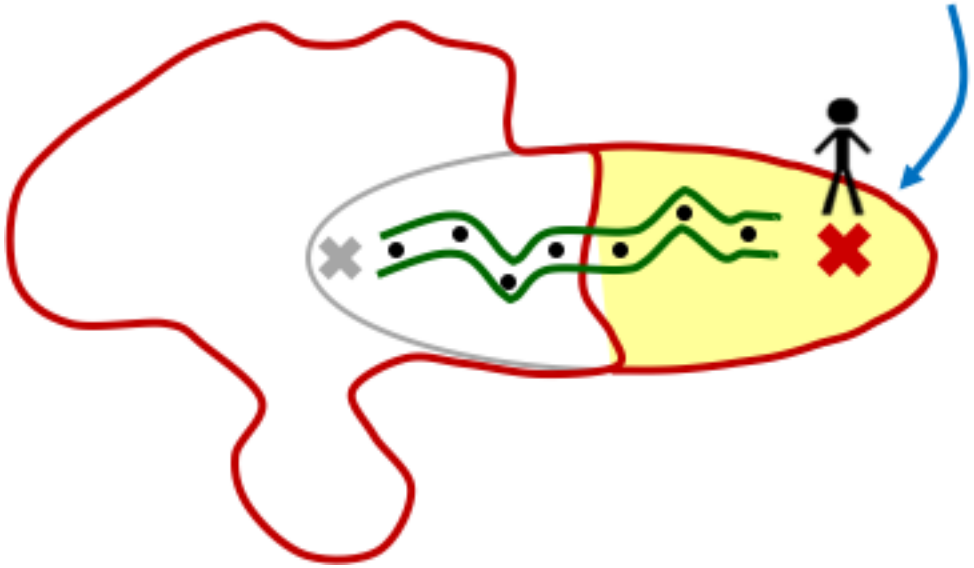


Tackling the specific obstacles to a defined target condition is a great framework for bringing everyone's ideas into play!

Our human ingenuity is activated and channeled when we operate with boundaries and limits.

NOW YOU ARE HERE. There is a new threshold of knowledge and a new current condition. And the Learner has gotten more skillful in applying the Improvement Kata pattern.

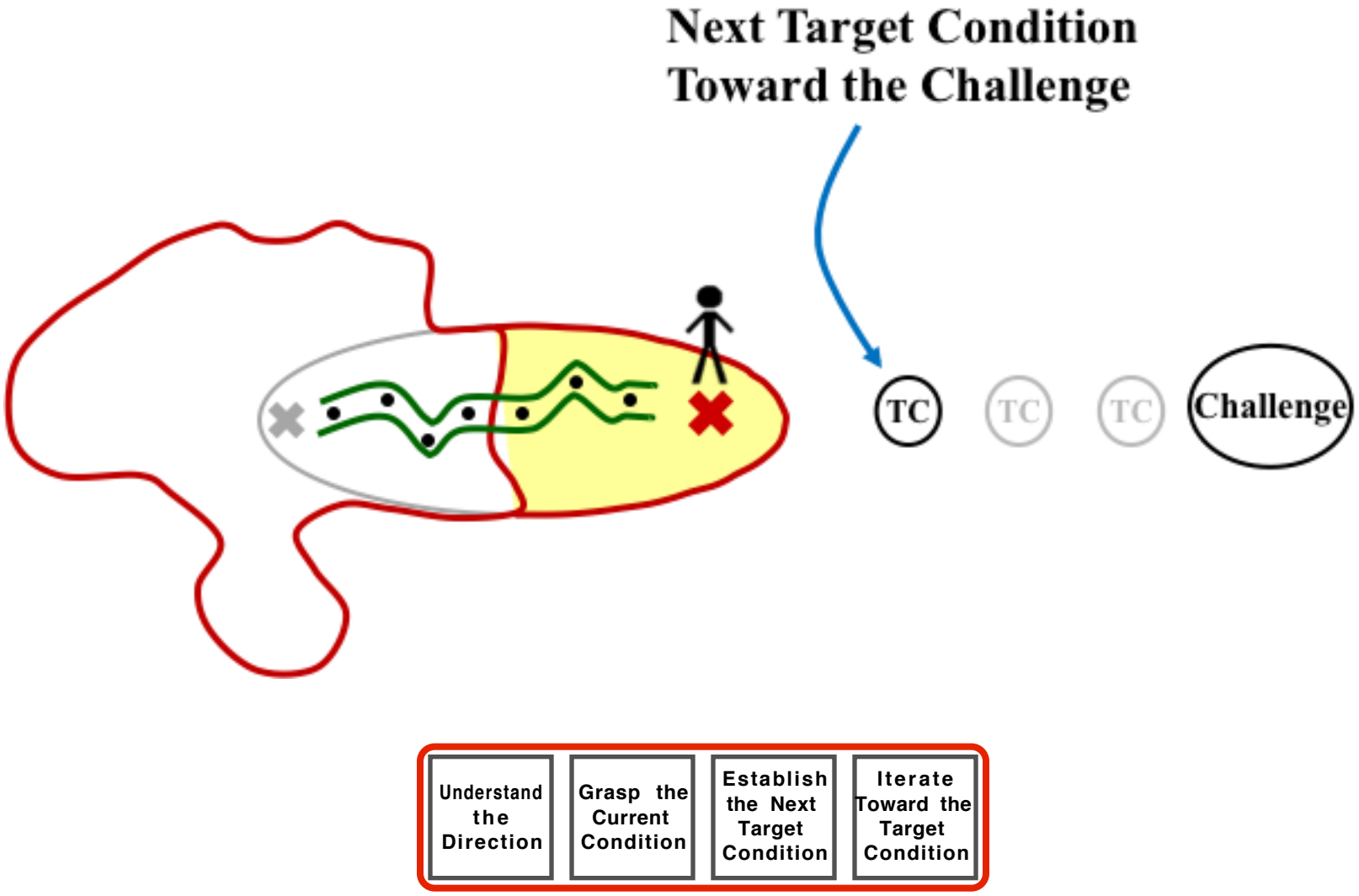
- ✓ **New current state = improved performance**
- ✓ **Closer to the breakthrough challenge**
- ✓ **Expanded knowledge threshold**
- ✓ **Increased skill with the Improvement Kata**



Challenge

Understand the Direction	Grasp the Current Condition	Establish the Next Target Condition	**Iterate Toward the Target Condition**

REPEAT THE PATTERN. Once the target condition is achieved or its achieve-by date is reached, the steps of the Improvement Kata are repeated. Before that, however, the Learner and Coach reflect on what was learned in the last pass through the Improvement Kata. The pattern of the Improvement Kata then repeats as the Learner sets and then strives to achieve the next target condition toward the overarching challenge. It takes a series of target conditions to reach the challenge, but they are set one after another since you don't know in advance what the all necessary target conditions will be.



SUMMARY

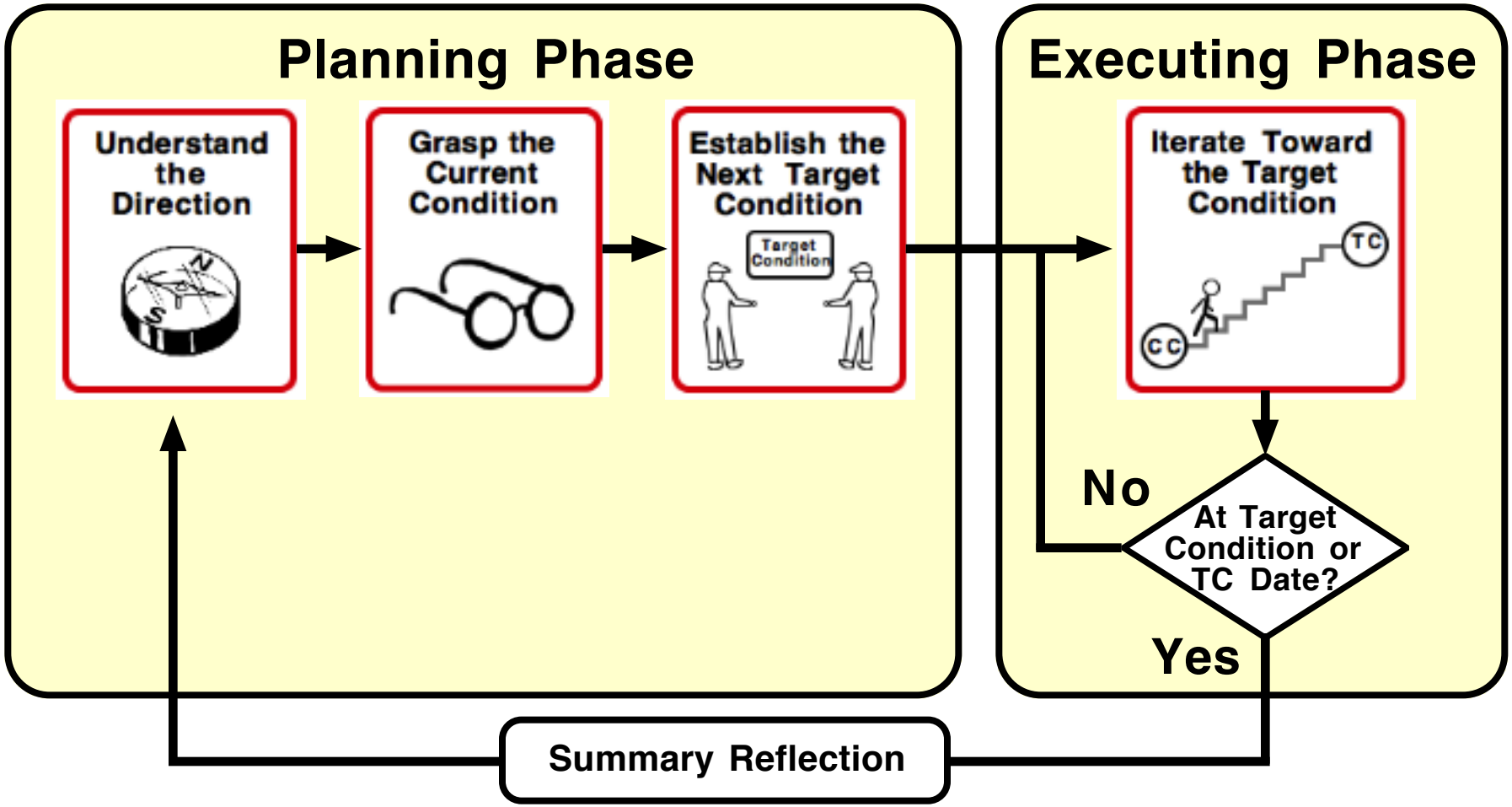


Diagram by Håkan Forss & Mike Rother

THE IMPROVEMENT KATA IS A META SKILL

It's working on how you think

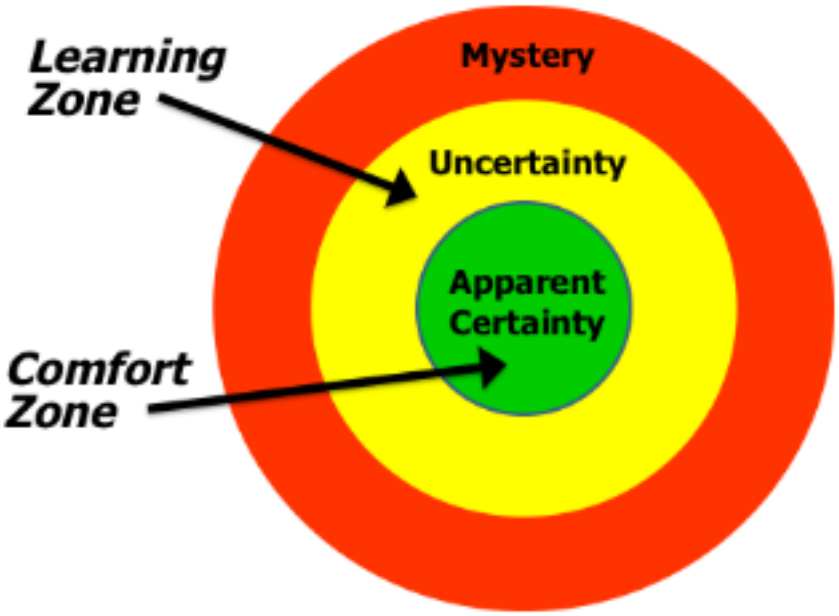
Every organization has work routines. The pattern of the Improvement Kata is a different and particularly powerful routine because it's a *meta skill*. It's a "meta-habit" that aims to change your mental operating system so your human capabilities come to greater fruition.

To understand this, separate *WHAT* you're working on from *HOW* you're working on it. The Improvement Kata focuses on the HOW. That is, the Improvement Kata is a content-free pattern for *how* to go about improving, adapting and innovating.

Skills are usually domain-specific. You don't learn to play baseball by practicing soccer. But the pattern of the Improvement Kata is a way of working toward any objective. Practicing the scientific pattern of the Improvement Kata develops mindset and habits for achieving challenging goals. It creates a change in your organization's culture that facilitates continuous improvement.

THE IMPROVEMENT KATA GIVES YOU SOMETHING TO HANG ONTO WHEN THE PATH IS UNCERTAIN

It's a kind of security blanket



The Improvement Kata gives you a way of having fewer negative emotions and more confidence and motivation when you navigate unclear territory. *"I've never done that before, but I know how to figure it out and find the way."* It helps you experience uncertainty more as an opportunity.

THE CHAIN REACTION WE'RE LOOKING FOR

Practicing the scientific pattern and routines of the Improvement Kata moves people from a predictable-zone mindset to an exploratory mindset

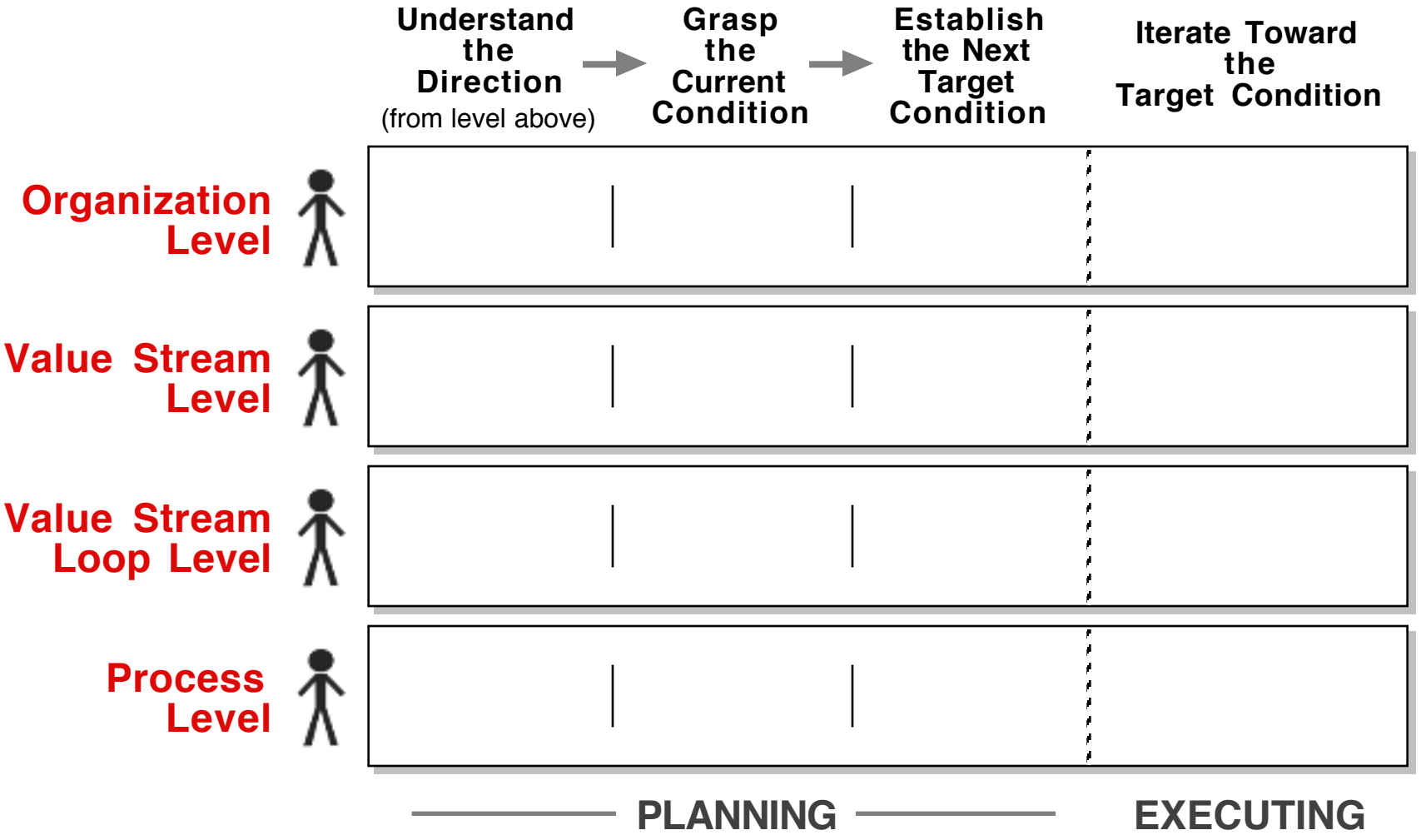
Increased Skill	→	*Self Efficacy*	→	*Openness to Challenges*
When teams practice the scientific pattern of the Improvement Kata they become more skillful and competent at meeting challenges... **... because they learn to work iteratively and scientifically.**		**As a result, they grow more comfortable with unpredictable paths** 		**Which allows them to be more open to new challenges!**

Self-Efficacy = The belief that you can master a situation

Self-Efficacy develops *along the way* through personal experience. Self-Efficacy is learned!

THE IMPROVEMENT KATA PATTERN IS USED AT ALL LEVELS OF AN ORGANIZATION

The content is different, but the pattern is the same



THE IK IS TOYOTA'S FUNDAMENTAL PATTERN FOR IMPROVING, ADAPTING, INNOVATING & MANAGING

The Improvement Kata pattern is the fundamental way of working at Toyota, and there are several Toyota practices through which this pattern gets utilized and reinforced. The research found the Improvement Kata pattern underlying all of them, and utimately it is taught to everyone at Toyota.

It's not surprising that the pattern that Toyota's managers teach matches models of the scientific creative process.

Toyota Practices:

- Daily Management
- Daily Problem Solving
- "Toyota Business Practices"
- A3
- Improvement Events
- Standard Work
- Quality Circles

What's behind all of these

The Improvement Kata Pattern

TRYING TO COPY TOYOTA'S VISIBLE TOOLS AND ACTIVITIES DOESN'T WORK

At Toyota the Improvement Kata pattern is lodged in its people; specifically in its seasoned coaches who guide Learners in practicing and learning this pattern of thinking and acting.

This means copying visible Toyota activities – such as A3s – without bringing along the enabling coaching environment is unlikely to change much. Mindset change and skill development come from correct & frequent practice of a pattern, not just from using Toyota-style tools and activities.

Teams and organizations outside Toyota would do well to begin with structured IK & CK routines for Learners and Coaches to practice, like those in this Handbook, and then over time develop their own activities and tools.

THE IMPROVEMENT KATA & COACHING KATA ARE THE LESS VISIBLE PART OF LEAN

If you teach Lean solutions without also teaching the Improvement Kata routine, you're unlikely to develop the skill and disposition for day-to-day continuous improvement that characterize Toyota and Lean

Visible Aspect of Lean

Lean solutions (tools, techniques and principles) to improve quality, cost, delivery

Less Visible Aspect

- The Improvement Kata routine of thinking & acting
- Managers as coaches for practicing that routine

HOW DO THE LEAN TOOLS AND PRACTICES FIT IN?

Lean tools, techniques and principles to improve quality, cost and delivery are as useful and important as ever, but they should be applied within the context of the Improvement Kata. *What are you trying to achieve?*

Lean tools are brought in (pulled) situationally as needed. The mindset you're trying to develop is one of working iteratively to discover and do what is necessary to achieve a goal, as opposed to a mindset of pushing and implementing pre-defined solutions or tools.

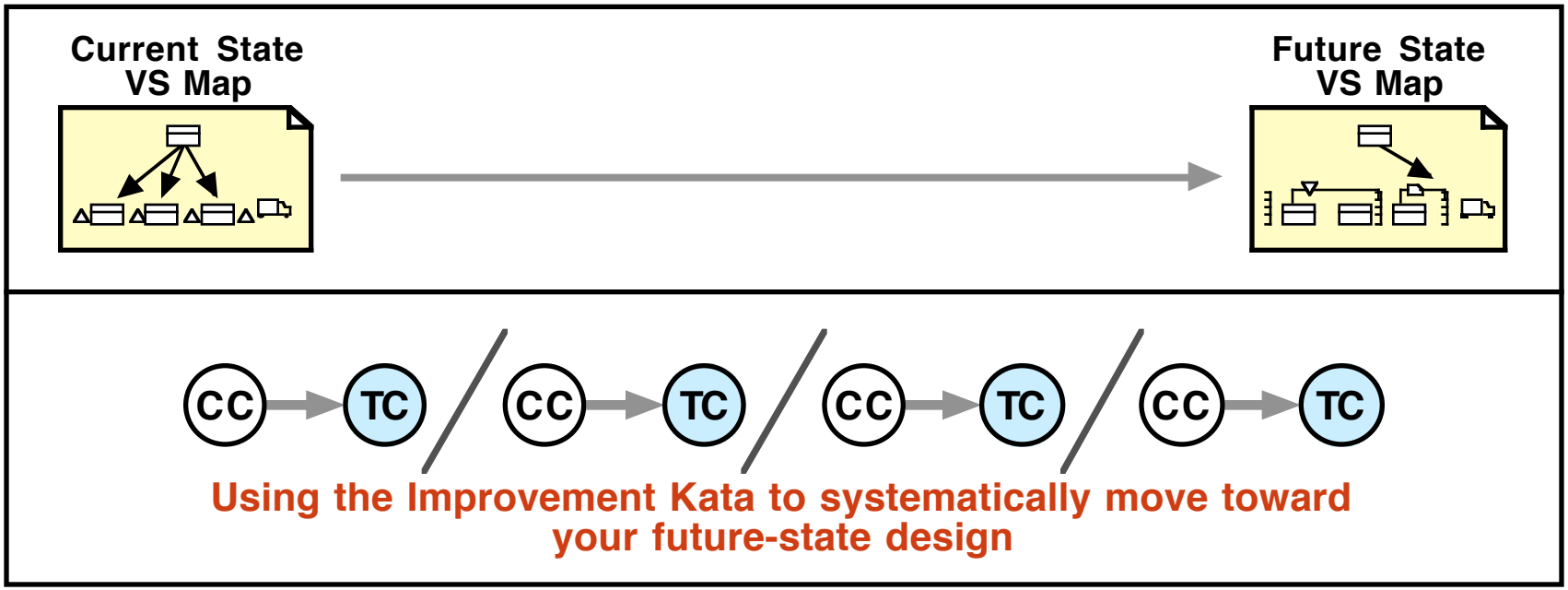
For example, if a kanban system will help a team achieve its target condition, then at that point kanban is brought in and utilized. Teams stay focused on their next target condition.

This approach makes our efforts more meaningful and successful. It teaches us more scientific & effective habits of thinking and acting.

FOR VALUE STREAM MAPPERS

The pattern of the Improvement Kata is how to achieve your future-state map!

Don't just draw a current-state map, highlight problems and go after them. Draw a future-state map of how you want the value stream to flow, and then use the pattern of the Improvement Kata to get the value stream to function that way.



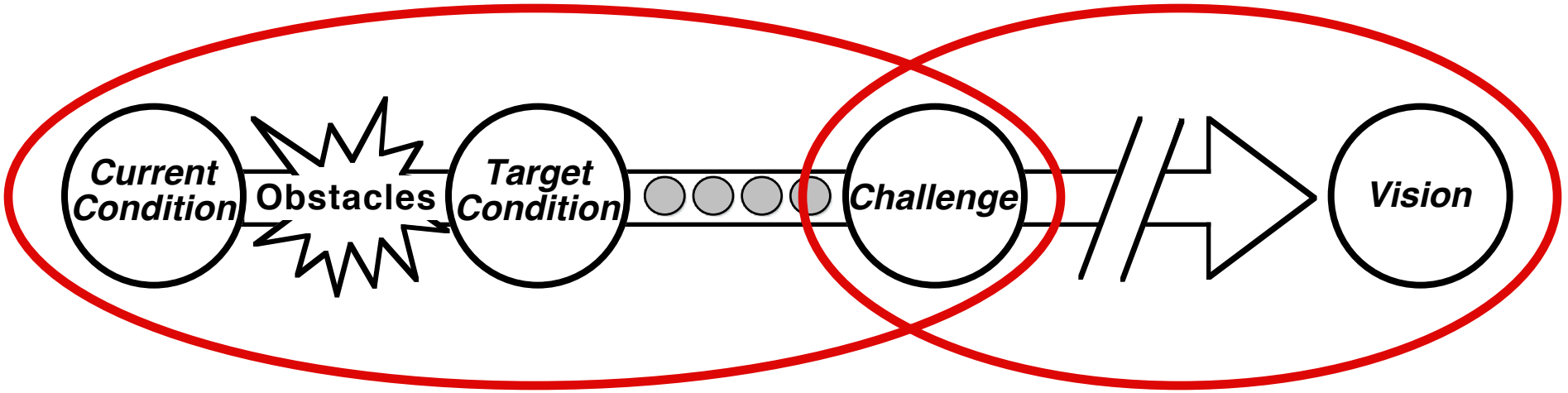
CC = Current Condition, **TC** = Target Condition

THE IMPROVEMENT KATA CONNECTS THE STRATEGIC AND THE OPERATIONAL

Pursuing a common challenge is important for achieving alignment

Coaching day-to-day application of the Improvement Kata across the organization is the job of managers

Establishing direction is part of leadership



Managing

Daily striving to define and achieve the next target condition, through cycles of experimentation.

Leading

Concentrating on strategic vision & setting challenges, and ensuring managers teach the Improvement Kata pattern.

THE IMPROVEMENT KATA IS ABOUT PROACTIVELY STRIVING FOR A NEW STATE, NOT JUST REACTING OR HUNTING

Troubleshooting	Proactive Striving
• Reacting to problems. You have to do this because problems happen, but it's not enough for competitiveness. • Reacting to improvement opportunities someone sees.	• A step-by-step process aimed at a desired, new target condition. Each step is taken relative to a hypothesis (prediction), and what you learn from that step influences the next step.

THE DIFFERENCE BETWEEN STRIVING AND TROUBLESHOOTING

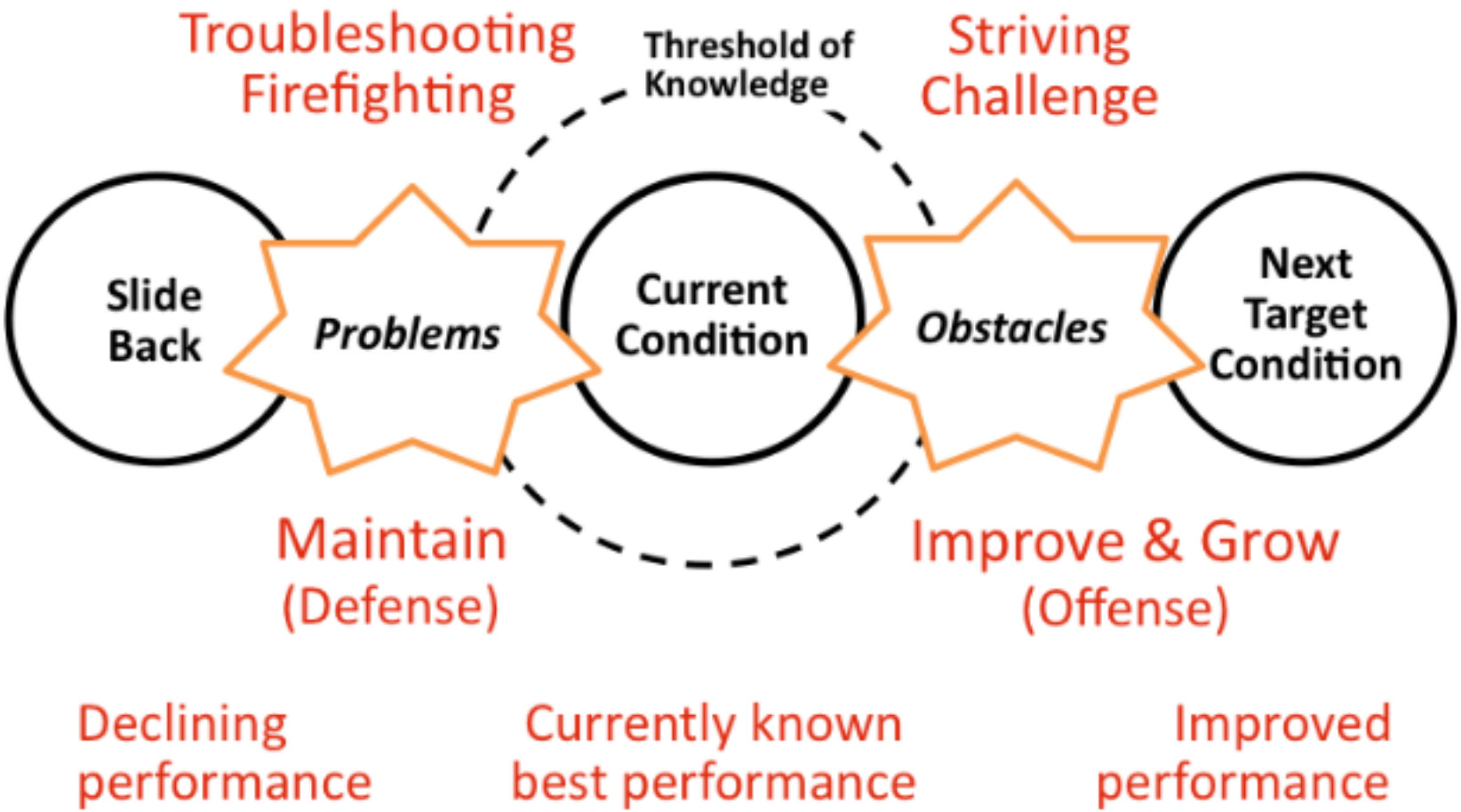


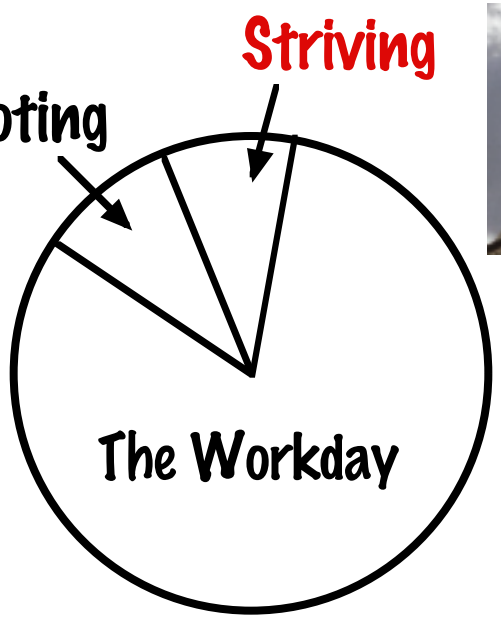
Diagram by Emiel Van Est

CONTINUOUS IMPROVEMENT REQUIRES PROACTIVE STRIVING!

Thriving in unpredictable, competitive circumstances involves systematically striving toward something, not just reacting to problems. Reacting to problems ("troubleshooting") is necessary, but alone is not sufficient for sustained competitiveness.

To achieve continuous improvement, adaptation and innovation a portion of everyone's workday should involve striving toward the next challenge and target condition

Troubleshooting mostly means trying to maintain



Striving brings you to knowledge thresholds and forces you to learn & adapt

Note: The striving activity described in this guide only takes up a small portion (a slice) of each day, and the individual steps can be small.

THE *ACTION OF INNOVATION*

Meeting a challenge involves lots of small steps

We like to talk about our outcomes, our inventions, and tend to overlook the day-to-day enterprise of the steps that get us there; the successive target conditions and all that iteration.

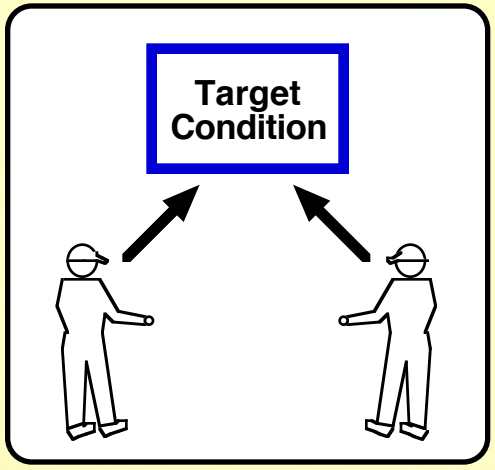
Unlike what you may think, the *action of innovation* is the day-to-day work of iterating toward a challenging goal.

When you realize that progress arises from accumulation of steps, often across the organization, it makes great sense to develop the capability of people in the organization to do focused, systematic continuous improvement on their processes.

KEY POINT
FOR MORE EFFECTIVE TEAMWORK

Don't ask a team, *"What can or should we improve here?"* Don't go on a waste hunt.

Whenever we do something we are creating neural pathways and, ultimately, habits. It may seem like a good idea to begin with waste walks or waste hunts in order to sensitize people about waste. But what you are actually doing is starting a mental habit of making random improvements. That approach may not lead your organization to sustained competitiveness.

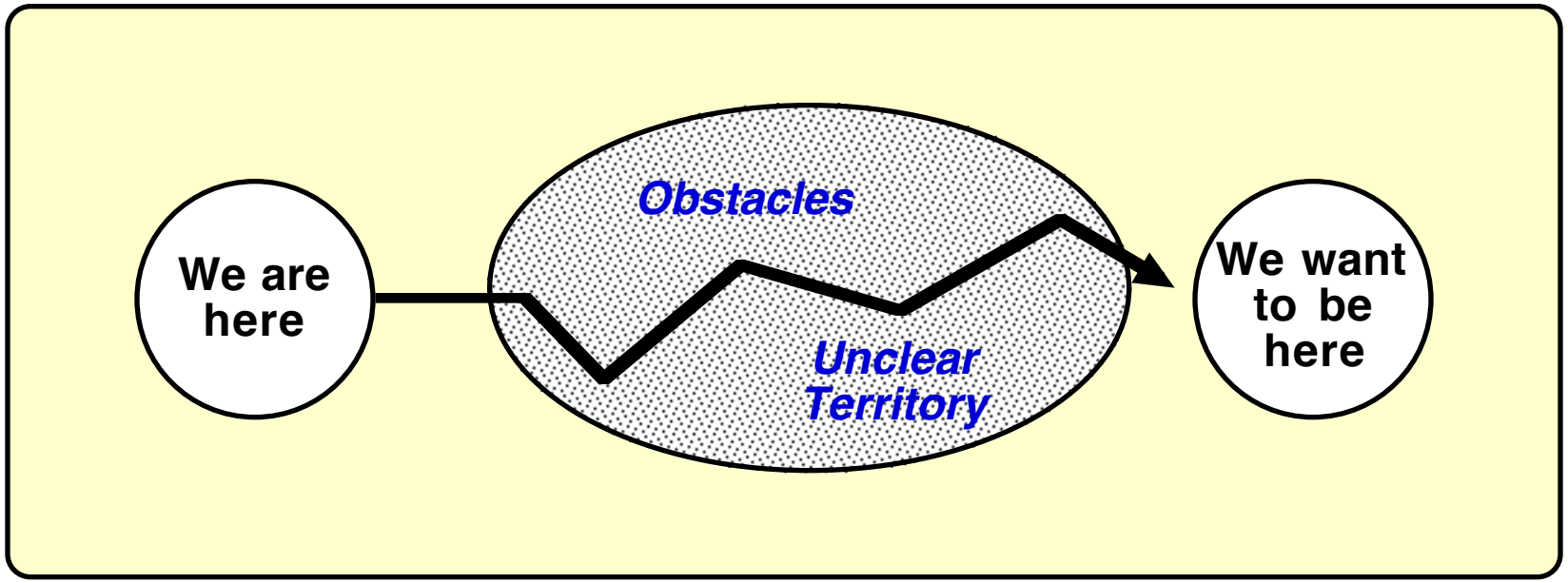


<u>First</u> take time to consense on a target condition.

(This will require you to understand the desired direction and to grasp the current condition.)

Then work together to overcome the obstacles to that target condition, one obstacle and one step at a time, following the PDCA cycle.

THE PATTERN OF THE IMPROVEMENT KATA PUTS YOU ON A JOURNEY OF PRACTICE AND DISCOVERY

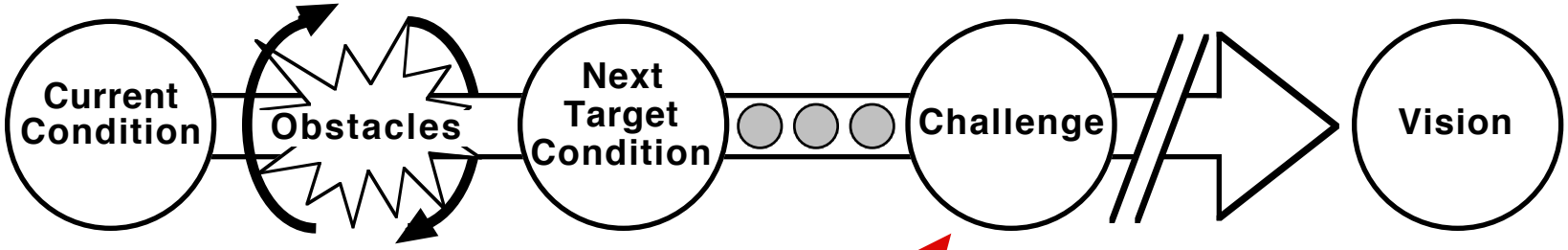


ONE MORE THING

Once you start applying the Improvement Kata to a process, you shouldn't stop

DISASSEMBLING THE IMPROVEMENT KATA

PART II of the Handbook takes you through the step-by-step details of these four routines to practice



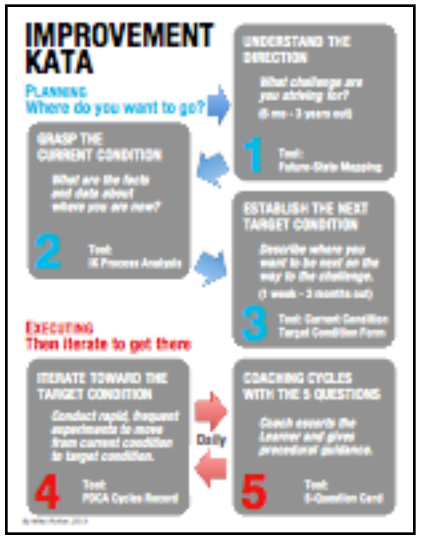
1: Understand the Direction

3: Establish the Target Condition

4: Move Toward the Target Condition Iteratively

2: Grasp the Current Condition

YOU are here!



PRINT OUT THE POSTER ON THE NEXT PAGE AS A GUIDE

KEEP THE POSTER IN VIEW AS YOU GO THROUGH THE REST OF THE HANDBOOK

IMPROVEMENT KATA

Where's the Threshold of Knowledge?

PLANNING
Where do you want to go?

UNDERSTAND THE DIRECTION

What challenge are you striving for?

(6 mo - 3 years out)

1 Tool: Future-State Mapping

GRASP THE CURRENT CONDITION

What are the facts and data about where you are now?

2 Tool: IK Process Analysis

ESTABLISH THE NEXT TARGET CONDITION

(with an achieve-by date)

Describe where you want to be next on the way to the challenge.

(1 week - 3 months out)

3 Tool: Current Condition Target Condition Form

EXECUTING
Then iterate to get there

ITERATE TOWARD THE TARGET CONDITION

Conduct rapid, frequent experiments to move from current condition to the target condition.

4 Tool: PDCA Cycles Record

Daily

COACHING CYCLES WITH THE 5 QUESTIONS

Coach escorts the Learner and gives procedural guidance.

5 Tool: 5-Question Card

By Mike Rother, 2013