Developing the Organization by Developing People

PROBLEM SOLVING

Two Skills Consistent Across ALL Contexts

Solving Problems

Developing People's Problem Solving Skills

A consistent approach to solving problems unifies the organization's efforts.

The "Learning Organization"

Generally, building a "Learning Organization" is considered a good thing.

But... what does it mean, really? What does a "learning organization" look like in action?

In practical terms, how do people, and the organization, actually *learn*?

What Does "Learning" Look Like?

As you watch this video, consider:

- •Which group *learned the most quickly*?
- •What was the process of learning?
- •How does this fun simulation compare to what you read in *Learning to Lead at Toyota*?

The Marshmallow Challenge

A study in learning and collaboration.

What Does "Learning" Look Like?

- Which group *learned the most quickly*?
- What was the process of learning?
- Explain the importance of "keeping the marshmallow on top."
- Which group learned the *least*?
- What was the key difference between the kindergarteners and the engineers?

Discussion: Learning to Lead at Toyota

What were your overall impressions of this article?

Learning to Lead: Starting Condition

What leadership style did "Bob Dallis" bring with him to Toyota?

How did Mike Takahashi determine this?

Learning to Lead: Target Condition

What **problem solving approach** was Mike Takahashi trying to teach?

Where did the "5 Why?" approach fit in to what Dallis was being taught?

Can you give an example from the article?

Learning to Lead: Target Condition

What leadership style was Mike Takahashi trying to teach?

With this style, what is the role of the leader vs. the work team in solving problems?

What is the traditional role of leaders in problem solving?

Discussion Assignments

Group 1:

Describe the phases of solving a problem that Takahishi was working to teach Bob Dallis.

Group 2:

Describe the phases of Takahishi's process for training Bob Dallis.

Take 20 minutes, prepare a 5 minute presentation.



According to Spear, what is the purpose of a *"standard"* in the Toyota context?

Does this differ from the usage of the term in your company?

If so, how?





A Standard for Problem Solving

What happens if people (or groups) approach problems using different methods? (even if those methods are equally effective!)

How does this impact crossfunctional problem solving?

How Problems Are Solved

- This is just as important as working on the right problems – perhaps more important.
- This is what we mean by developing the organization by developing people.
- By developing core problem solving skills, we develop the entire organization.
 - Problems are approached *consistently* with sound, scientific thinking.
 - Aligning the *method* keeps people focused *on the problem*.
 - Skill is gained through practice, practice, practice.

The importance of this is only recently becoming understood.

How Problems are Solved

	Nature of Solution "What to do"	How Solution is Developed "How to do it"
Traditional Management	Given / Directed	Not specified, left to "empowered" employee.
Toyota / "Lean"	Not specified, left open. <i>Must</i> advance toward "True North."	<i>Very specified</i> . Team member is coached through each step of the process.

Key Point: Many, if not most, "lean implementations" employ the "traditional" approach – "directed implementation of tools."

Thus, the fundamental learning of *how* to sustain and continue to improve never takes place.

Steps of Problem Solving

Understand the direction

 (True North, The Challenge)

What was the "Marshmallow Challenge?"



Steps of Problem Solving

Understand the direction

 (True North, The Challenge)



- Grasp the current condition.
 - GO AND SEE the actual place, actual problem.
 - Establish the next target condition.
- Rapid experiments toward the target following PDCA.





- What do we <u>now</u> know about the problem?
- What did we learn from the last observation or experiment?



ASK:

- What did you have to do that you hadn't planned on?
- What did you observe?







The Target Condition:

- Describes future state performance *and* process.
- Is beyond the current threshold of knowledge. (We are not sure how to get there.)
- ...but is "reachable" we are pretty sure we can get there.
- Has a deadline. (About a week for starters.)

The Target Condition





















Receiving Variances

"Grasp the current condition" A Case Study

Case Study: Receiving / Invoicing Variances

Every month, this location has variances between the amounts invoiced by raw material suppliers and what we recorded as "received."

The dollar amounts can be quite significant.

Some of these can be traced to errors that can be fixed- e.g. wrong prices in our data base or on the invoice.

Some cannot be fixed because the source of the error cannot be found.

The Initial Problem

Evidence of Problem: Accounting variances. Value of parts received do not match invoice amounts from suppliers.

Standard (what should be happening): Zero variance.

The Receiving Process



Accounts Payable

Actual (what *is* happening): Net variance exceeds \$1,000,000 in some months.



Receiving/Invoice Variances

Receiving/Invoice Variance



Actual (what *is* happening): Positive Variances Receiving \$\$ > Invoice \$\$ exceeds \$2,000,000.

Positive Variances (Received more than invoice)



Actual (what *is* happening): Negative Variances Invoice \$\$ > Received \$\$ exceeds \$3,000,000.



Variance by Plant (March)



Pareto – Variance by Plant



Variance vs. Total Material Received by Plant



Number of Variances vs. Number of Transactions





Total \$ Variance vs. # of Transactions



Transaction Errors by Supplier



Causes of Variance



What is the problem?

What is the problem?

We do not know without *studying the actual process*. – **the** *actual place*.

- the actual thing.
- the actual facts.

By the way: What is a "Fact?"

> A "fact" is independently verifiable through observation. Those charts and graphs are *not facts*.

Genchi Genbutsu – Go And See For Yourself



What is the problem?

- We often confuse graphs and charts for "facts and data."
- Big problems are generally the accumulated results of many small problems.
- It is critical to understand the nature of the work itself.



Assessment

How are people expected to solve problems in your organization?

What is the role of leaders in problem solving?