

「現場力で勝つ」 Power of KAIZEN Activities at workshop

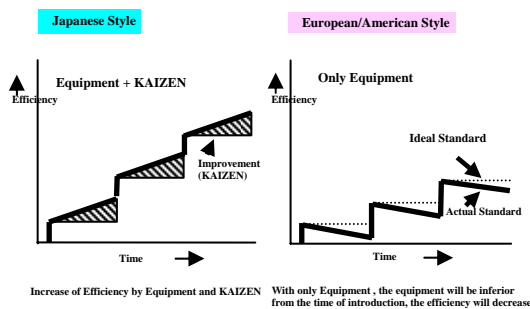
-12th Dec, 2005-

What is the strength of Japanese Manufacturing Factory? In the past, the American Business Management Scholar explained that "the way to judge the intelligence of the operators at workshop is to count the fingers in one's hand". Japanese operators could count the fingers up to six and seven; while American could not count even five.

It showed that the Problem Solving Ability of Japanese operators in organization were such excellent, and that the operators in Japanese Factory had their brain on their hands.

Before the concept of "KAIZEN" is expanded, leader of Top-Down Management in western countries had no KAIZEN activities. The only way to improve work efficiency was to introduce the equipment as automatic machine, computer, etc., while Japan developed KAIZEN activities from Bottom-Up day by day, and then the complement of the equipments was introduced. So, Japan could leave America behind at the beginning of 80th.

Fig.1 Japanese and European/American Productivity Improvement Style



In Agricultural village society Japan, they are group life and so a minority session of activities is easy to be done. On the other hand, America which country is always said that it is racial melting pot, gathering various people who had different languages, religions, foods and cultures. Certainly, the manufacturing way of life uses the top-down culture method.

In order that a company executes KAIZEN activities continuously and developmentally, it is important for the company's manager to understand three points as follows:

1. Provide an eye to look on "MUDA"
(MUDA: Doing without effective result, no effect on use; Useless)

To strongly promote the KAIZEN activities at workshop, the knowledge of how to consider the MUDA is needed. Mainly, there are seven MUDA as follows:

Fig. 2 7 points of MUDA

1. MUDA of Over Production
2. MUDA of Waiting
3. MUDA of Carriage
4. MUDA of Processing
5. MUDA of Inventory
6. MUDA of Operation
7. MUDA of Defect Goods Production

If the MUDA is overlooked, it is not possible to discover the problems of each job. At first step, it is necessary to know and gain ability to discover the problems.

In order to make oneself come up with "Oh,..." , when he/she looks at the workshop, he/she has to go to the site and brings the sense of how to look at it and it is up to him/her that be able to judge and take action immediately or not, as shown in Figure 3.

Fig. 3 Ability of Observation on Workshop

Monitor the cycle from beginning to the end of operation

- 1 SEE VIEW . . . Just See
- 2 LOOK STUDY . . . Look and Study
- 3 WATCH OBSERVE . . . Collect the information
- 4 GUARD ATTEND . . . See and then take action

「現場力で勝つ」

Power of KAIZEN Activities at workshop

-12th Dec, 2005-

2. Improve the Problem Solving Ability

When the problems are found, the problem solving ability is required to resolve problem in each.

KAIZEN always says "Should be rough and ready rather than slow and elaborate." To make an immediate but insufficient action is better than being waste time on elaboration of techniques.

As the German KAIZEN workshop had been executed, there were many arguments but they did not lead to further action. During their arguments, the problems were resolved by trial and error all the times. Each working section should focus on trial and error more than theoretical approach as theory and practice.

Another importance for KAIZEN activities is to share the problems to other departments in order to find out more solutions from others. I read the article regarding to the German Automobile which mentioned about direct-injection engine which was the burning system in direct cylinder. This was the invention of Mercedes in Germany. It succeeded to assemble in airplane engine with little torque fluctuation. But it failed to apply on cars which moved on the road and had more torque fluctuation.

But Japanese Automobile Assembling Manufacturer succeeded this burning system in the car. In Japan, there was no barrier between mechanic experts and electronic experts while there was a barrier between both of them in Germany, which made the fusion system not work properly.

There is the wall between the department at various situation. Even in Japan, there also is the gap of Production Engineer (IE Department) and Workshop in most companies.

For example, at the manufacturing preparation step, the jig for assembling work was made and passed to the manufacturing department but it was hardly used as it was. That was the existing condition. The opinion of each department regarding to the tools and

machines could be reflected more and gained the initiative.

Although the given problems are able to be clearly solved, the next step of demand is the ability to discover the other problems by themselves from their workshop.

Finally, how can KAIZEN activities be kept continuously? We had heard from the past that "Continuity is power". It is easy to say but in practical, there is hardly such that company to do so.

3. Maintain the well-established structure

In Japan, there are many events in seasons. Originally, it may be the characteristic of agricultural people. KAIZEN activities are as events, all come to life when the event comes, after that it returns to the silence as before. There are many ways of the following which are stated in the figure afterwards.

- How to maintain the continuation
- Systematic Effort
- Always beware of Risk

The above three matters will be explained in detail as below.

1) Provide an eye to look at "MUDA"

I) Standing at Workshop

Manager who is in charge of that workshop doesn't go to the site. WINDOWS is available for anybody to use freely. The leader of that workshop is good in executing the data but cannot apply it to make any actions. I have heard that some supervisors had very less time to check it. Leader's job is not to get the data, but to take action which focuses on using the data to make countermeasure. The objectives and procedures are misunderstood without notice.

The chance to communicate with members is decreased because there is less time to go at workshop, the human relationship often becomes having the

「現場力で勝つ」

Power of KAIZEN Activities at workshop

-12th Dec, 2005-

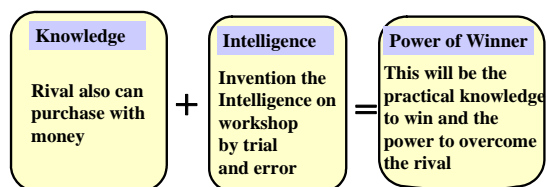
problem. The leadership is weakened and the overall knowledge of leader becomes weak too. Before of that, most of leaders cannot make a distinction between [give someone a job] and [leave all the decision making to someone].

First of all, the leader of the workshop has to start the management (MUDA Removal) "at workshop"

In the year 80th, the disco boomed, there was a "stage" in the hall. With the same way, if we make the "stage" at workshop in the factory and then we look upon the movement of operators, flows of things, defects, both normal and abnormal things; plenty of troubles can be found.

When there is some issue, the repetition of "Looking" at manufacturing cycle must be done many times, and moreover, to search for "5 Why" and find out the real cause to tell its own answer. Generally, extraction of reasons will go on wheels until "3rd Why", but "4th Why" and "5th Why" do not come out easily. Because they do not come out, that is why we have to think. At that time, it will be different from the prior '3 Why' because only the knowledge and skill until now can not bring out the answer. The action which tries to think 'why' is really "to bring out the intelligence", which goes over the common sense.

Fig. 4 Only Knowledge can't win



The competition with only knowledge and skills can be easily left behind by the rival in the same business. The point for the company to win is how to use intelligence (idea) to make the differentiation. The activities which must be joined by all to bring out the intelligence (idea) are the way to develop the innovation from the workshop. These

all activities will be started from standing on the "stage".

II) Normality and Abnormality

For Production Activities at the factory, it is very important to understand all "Normality and Abnormality". For example, the speed of production follows (normally) the plan or not, works in process at workshop, which whether are well qualified or make defects, must be known by anyone. If quantities and types of defect, etc. are known, the operation handling of [the data should be taken and considered] will not be needed at all. If the abnormal condition is shown visibly, the real-time countermeasure can be done easily.

But there are many leaders/supervisors in factory who cannot use the tools of "Visible Management" well. This is the tool used for discovering normality and abnormality and it is the management at workshop to return abnormality to normality rapidly.

Most leaders do not recognize the abnormality; therefore, they cannot grasp the troubles and manage them. Of course, the leaders who do not concern about the abnormality and cannot solve them are disqualified from the beginning.

Fig. 5 Visible Management

- What is [Visible Management] ?
 - * What is Normal, What is Abnormal, to be known by glancing.
 - * 「Index Measure J」 to clearly identify what is Normal.
- Tool for Visible Management
 - * Policy, Target, Notice Board
 - * Display of Process Name, Location Name, Goods Store
 - * Display of Tact Time, Control Table of Production per time unit
 - * Table of Minority Session Management (Theme, Target Value, Activity Plan)
 - * Notice of the Chart of Standard Operation, One Point Lesson
 - * Red Tag (Tag to indicate the defect goods)
 - * Display of the various color of JIG and Packages
- Objectives
 - * Make the condition easily to discover the KAIZEN points at the workshop by sight.

If the normality and abnormality is so easier to understand, the action to form it normal and to find out the MUDA will be easier too.

Then, this visible management uses the notice board to show the department

「現場力で勝つ」 Power of KAIZEN Activities at workshop

-12th Dec, 2005-

policy, the movement of the monthly focused activities, and others which links to the minority session. It is the thoroughness of policy, as a tool to thoroughly let the subordinates understand the leader's "thinking".

The more the workshop can make the visible management, the more KAIZEN proceeded well. Any workshops, which cannot do this, could not proceed or be difficult to proceed KAIZEN.

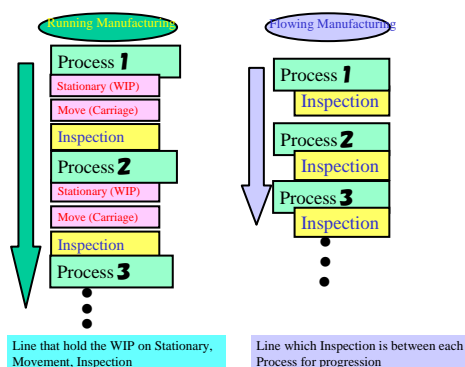
The objective of "visible management" is to make the workshop able to discover the problems easily.

III) Look at the Flow

Especially, looking at the Flow of Manufacturing in the Factory lets us know about MUDA.

There are two ways of Flow. One is distributed from external and another is from internal process. If there is "stagnant things" somewhere, it has to be thought "Oh" and be asked oneself the reason "Why?". "Stagnant things" occurs because the external party will supply materials in bulk at a time and processing lot size of internal process are inappropriate.

Fig.6 Running Manufacturing and Flowing Manufacturing



The difference of Running Manufacturing and Flowing Manufacturing are showed in Figure 6. Although it is the manufacturing by cell as popular right now, or it is the direct line manufacturing, do both of them can progress without any one of work in process left in the manufacturing line or not? A long time

ago, the home appliances direct line manufacturing had a gap (not closer together) between process and process. There were many works in process on conveyor, it was a typical running manufacturing. Moreover, the quality could not be assured and it was difficult to increase the manufacturing efficiency.

Fig. 7 Method of Shorten the Lead Time
(Big Lot Flow ⇒ Small Lot Flow)

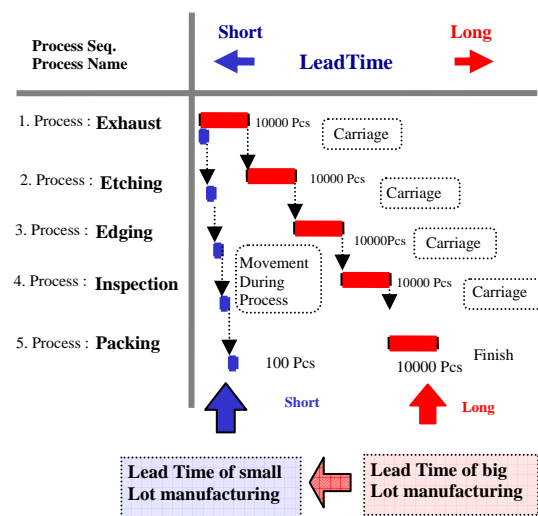


Figure 7 shows the method to shorten the lead time and the difference between the lead time to proceed big lot and small lot. Lot Manufacturing will become one piece manufacturing if that is developed.

However, materials flow is easily to extract the MUDA and generate idea to combine the process when checking the quantity those are holding and considering the process before and after. If the flow is dynamically done, raw materials could not link to the finished parts.

Taking wide views, the flow of materials until distribution can go on at a stretch. This is the same concept of SCM (Supply Chain Management).

IV) Look at people

Keep watching at operators' action, you know that whether their actions make added value to work or not.

Figure 8 shows "motion" and "work". The action which brings out the added

「現場力で勝つ」 Power of KAIZEN Activities at workshop

-12th Dec, 2005-

value called “work”, otherwise it was called “motion”. This is the definition said by Mr. Ono, Former Vice President of Toyota.

Fig.8 Motion (no result) /Work (result)

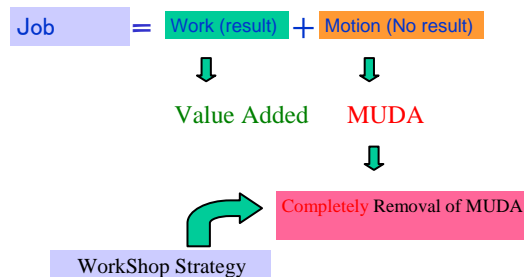


Fig. 9 Density of Job

$$\text{Density of Job} = \frac{\text{Value Added Operation}}{\text{All Operation}}$$

$$= \frac{\text{Work (Result)}}{\text{Motion (No Result)}}$$

To Increase the Job Density = To change Motion (No Result) to Work (Result)

Recognition of MUDA (No Value Added Work)

After the world war, he compared Japanese automobile industry to the big American automobile industry, Japanese industry was cornered into the condition that would not stand more. He was told by his superior about the impossible subject which was set to overcome American within 3 years.

He directed to achieve the target, he carefully took a watch on “job” of the factory and tried to get a clue to solution. At that time, he found that “job=work + motion”. That time, American did their job with “job=work + motion”. Therefore, he thought that Toyota would win if they thoroughly eradicate “motion” to make “job=work”.

“Work” without added value is only “motion” which will cause MUDA. For example:

- The waiting time to keep on a watch while machine is operating.
- The waiting time at the conveyor work.
- The time to hand out for moving things at assembling work.
- The lost motion at assembling work
- TORIOKI (Put in and Take out operation) at conveyor work

Looking at the workshop only can see many “MUDA”. The density of job in Figure 9 shows how much the proportion of the added value is among the whole job of operators. In case of the assembly industry, the density of job is always low. To change “motion” to be “work” is also to increase the density of job.

2) Increase the Problem Solving Ability

1) Do it immediately

I thought that the reader might hear about the KAIZEN (improvement) of work till to KAIZEN (improvement) of equipment for many times. I did not mean to stop KAIZEN of work and to make KAIZEN of equipment, but the KAIZEN of work should be thoroughly done before doing KAIZEN of equipment.

For example, if there is a conveyor to combine the process A and process B. One day that conveyor is broken and it is already old and rotten, therefore new conveyor is required as KAIZEN of equipment.

At that time, if the operators of Process B come nearby the process A, and directly “hand” the parts, the conveyor to link process A and B is unnecessary.

The production engineer who is good in improving the equipment will immediately buy the new conveyor.

The way to say “From KAIZEN of Work till to KAIZEN of equipment” may be much appropriated to say “KAIZEN of work in advance of KAIZEN of equipment”.

The equipment should be introduced after the KAIZEN of work is done to remove the MUDA already. Otherwise the equipment would be

「現場力で勝つ」 Power of KAIZEN Activities at workshop

-12th Dec, 2005-

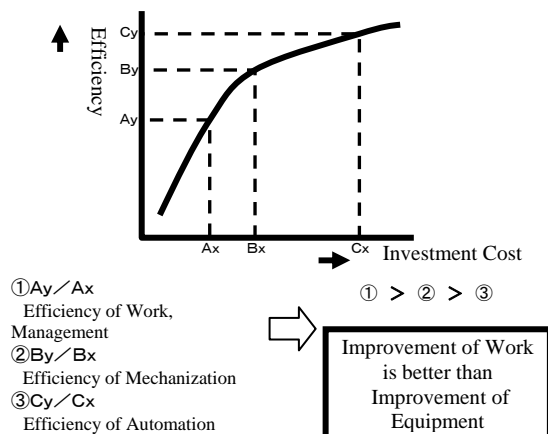
introduced with MUDA included equivalent to buying the expensive equipment. That is "waste of money" with no doubt.

Improvement of work does not involve to equipment, it can be done immediately at any time. If another trouble occurs during the improvement of work, it can be return as before.

If it fails and another method is executed in that process, it may be good, it may get a clue to new problem solving method. This is the good point of doing it immediately.

If the workshop A changes, the workshop B varies and that would influence the workshop C to be changed also. To change the workshop often, is useful for member to have more improvement conscious.

Fig10 Improvement of Work is better than Improvement of Equipment



As shown in Figure 10, to do KAIZEN of work rather than KAIZEN of equipment will be handled with very low cost of work and management comparing to the high effectiveness. If compare to the investment cost for mechanization and automation, it is rather low effectiveness.

Rather than KAIZEN of equipment which spends much time, the KAIZEN of work which is immediately done is rapidly practical and encourage the KAIZEN activities.

II) Observation and Think

In the problem solving ability, the sense of ability to observe is very important. That means how to pick up

the problem which is extracted from the workshop.

Fig.11 3 Steps of Improvement

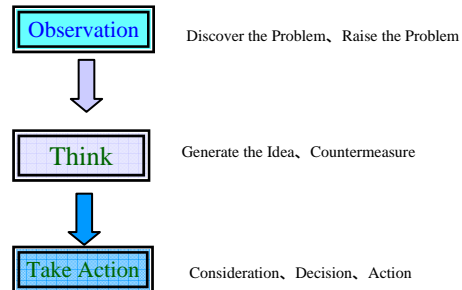
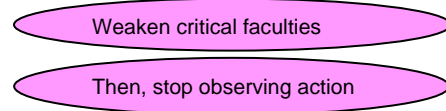
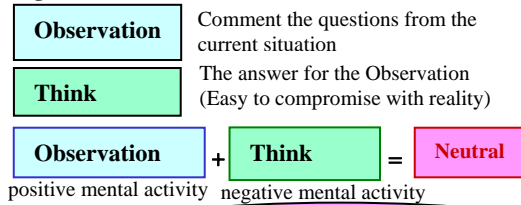


Fig.12 Observation and Think



The 3 steps of the process from generating opinion to execute KAIZEN are expressed in Figure 11. The concept of Observation and Think is stated in Figure 12.

Observation starts from raising the problem detected and feel "OH!". Nothing comes from current affirmation, a new step from current negation begins. Think is the feeling after "OH!" to generate idea and countermeasure. But if the Observation and Think are done at the same place, the mentality of comment will be weakened and the ability of observation will stop. At the workshop, only observation is enough without thinking. Anyway if the idea occurs, it should be written in "memo".

After observation, to discuss on the point of thinking by "memo" from what is observed at in another place is easier to conclude.

- Observation is acting as a "key" to open the door of treasure house called "KAIZEN Proposal".
- Thinking sows the seed of KAIZEN.

「現場力で勝つ」

Power of KAIZEN Activities at workshop

-12th Dec, 2005-

III) Set a cut end of MUDA.

The way to proceed the elimination of MUDA is different from the pattern which is applied or not. Generally, it is better to look at each workshop with the cut end of MUDA which are specified as below:

1. Eliminate MUDA at each process

- To fully establish the small KAIZEN in daily work, starts from improving operation, jigs and work, etc.

2. MUDA on handling

- Looks at the movement of operators and make decision. Take a careful watch on the machine, trouble of jig, balance of process.

3. MUDA on stock inventory and work in process

- The easiest way to eliminate MUDA on stock inventory and work in process is to make a small lot manufacturing, and then manufacture individually.

4. Human minimization

- The conclusion is that an enforcement must be issued to 1 people (2 people) Assembly Cell line or U line first, and then command to whole factory.
- The ratio of KAIZEN in each factory is evaluated on the ratio of using 2 people in assembling.
- All company can bring up the cell system as well.

5. Improvement by Step

- Especially for the process which uses mold, various types of products at small lot manufacturing is commonly known that the time loss during the preparation to change the process is increased, therefore, it should starts to improve from "zero preparation skills".

6. Defect and Claim

- Starts from making zero defect line.
 - * Makes the Cell line form first.
 - * Get rid of the point which trouble occurs.

* Executes 5 WHY to each trouble that occur.

* POKAYOKE (avoid careless miss) at each process.

(Warning on how to place things or jig, not to place the thing which is easy to misunderstand in the same place, etc.)

7. Prevention of Stock Shortage

- In the assembling process, all cannot be assembled if one part is short. This is an actual problem.

A) The sequence-repeated product uses "KANBAN" manufacturing

B) The allocated product uses "Check System"

8. Stop "CHOKOTEI"

- There are many causes of CHOKOTEI (manufacturing stopped for a while (uncompleted preparation, some defects mixed, loss of tools, etc.)

- For process industrial factory and automatic machine factory, operation starts within one minute.

- There are many cases of CHOKOTEI which some defects are mixed and caused it break off, therefore, pay attention in controlling work in process.

- Uses simple TPM method

A) Initial Cleaning to prevent dirt and dust

B) Stop Moment Preservation (prepare parts to change)

C) Countermeasure for maintenance calendar as prevention

9. One piece manufacturing method

- Manufactures 1 piece at all processes
- It is similar to the dryer machine used for drying the products. The merit is when running by lot manufacturing costs less electric power. But to make zero defects, it should be improved by spending much time to manufacture one piece of sequence-repeated product.

10. Delivery Lead time

- Changes the gathering manufacturing to be small lot, and challenges to one piece manufacturing.

「現場力で勝つ」

Power of KAIZEN Activities at workshop

-12th Dec, 2005-

- Executes thorough the process combination
- Shortening the lead time by gathering some more processes into compound process. For example, combination of 5 processes will shorten the delivery lead time into 1 of 5 by ratio.

IV) Works as Subject Achievement Pattern to be Subject Creation Pattern

The last countermeasure to improve the ability of problem solving might suddenly looks like conflict but that is not.

The manager who is the leader should propose the countermeasure on the subject given correctly. But if he/she get familiar, the pattern will be [Subject—Achieve] and [Command – Report].

The low level manager might be satisfied with this condition but it is necessary for manager himself/herself to make a real progress. But in case of top management person who stops at Subject Achievement Pattern, he/she is disqualified.

Management is always said as the industry to handle with environment. The economic environment changes more violently than our consciousness or management Organization.

From now, leader and management people have to forecast environment changes in advance as business subject. Considering about what subject for manufacturing department, what subject for development department, what subject for operating department should be done.

(Leader Style of handle the subject)

- He/She is good at achieving the given subject but not good at finding out own subject (problem in the workshop) which is called passive type leader. (operators, supervisors)
- The leader who always waits for the instruction, he/she will not move if there is no instruction.
- The leader who cannot create their own subject and perform action.

During the bubble economy in year 80th, there was a strong idea about the company's rival. If another company in the same industry had introduced something, they do also introduce that thing too. If the company would be left behind and felt as illusion, the company should make the same practice. This was the characteristic of Japanese company, there no any strategies.

Because the action of rivals were executed everything to compete, therefore no one loses but also no one wins the other company in these industries.

It is clear if we look at the post bubble financial industry. Currently, that reflects some difference in service, etc

When the management people becomes command-waiting leader, he/she will be not good leader because he/she can not do anything if there is no command

If we look at another example, the idea of fire fighting work needs to switch to Fire Prevention work but it could not be. When fire accident occurs, the fire fighting is immediately executed and made someone feel worth to that action. But it is not good if the fire prevention is forgotten. The fundamental of fire prevention should be focused and this decreases the number of fire occurrence.

This problem is similar to the action in the quality assurance department in factory. The correspondence after the claim comes is logically done, but many of them always forget that why the claim does not decrease, why it happens. In this matter, I may add that "To dispose the claim" and "To handle the claim" is wholly different. The quality assurance department who forgets "why" is equivalent to forget "customer". If the word claim replaces the word customer, you will know that which the correct expression will be.

In order to bring up the real management people, we can say in the recent word as "To make use of intelligence" and often explain the real objective, "For what?".

Only Knowledge can be bought by money, but Intelligence cannot.

「現場力で勝つ」 Power of KAIZEN Activities at workshop

-12th Dec, 2005-

KAIZEN = Intelligence + Money

If there is no money, KAIZEN will be a game of Intelligence, and business is also a game of intelligence.

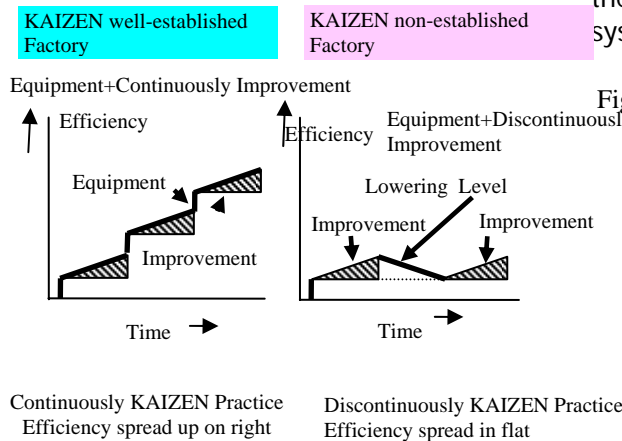
3) To maintain the well-established structure

I) Continuously Maintenance System

The way to continuously maintain the KAIZEN activities in factory is very difficult matter. But the companies that promote the KAIZEN activities and push it out, are lively and most of them can gain a good profit.

Many companies have done the KAIZEN and reorganization, but we can say they finish like a festival. The festival finishes and will come again in the next year. This (once a year) cycle cannot be called "continuance" repetition.

Fig.13 KAIZEN well-established and non-established



The differences between factory that is well-established and non-established KAIZEN are shown in Figure 13. The productivities in well-established factory is rising by heaping the effort up steadily, but the factory which is non-established does KAIZEN like a Festival pattern, when it finishes the KAIZEN activities are declined and the productivities will return to the beginning status, and it will remain unchanged in average.

This phenomenon always occurs in the company that extends their business in foreign country. The following repetition happens.

- Someone from factory in Japan goes to perform a local instructor.
- KAIZEN is executed.
- Japanese Staff comes back to Japan.
- The evolution stops and returns to the beginning status.
- Again, someone from Japan goes to instruct.

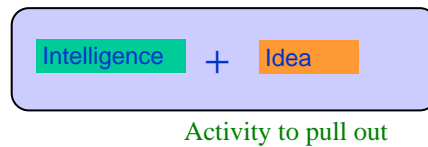
The important thing of "Saw" pattern productivities of the factory which is non-establish in KAIZEN is, there are lack of the system to maintain KAIZEN continuing.

The method to generate the innovation is shown in Figure 14. The most important things are 2 points.

- How to generate the innovation and
- How to get subordinates into trouble

If they are not in trouble, their intelligence will not come out. Therefore, good trouble making is always given to the minority group continuously is a system to let them take the action.

Fig.14 What is Innovation



Method to provide Intelligence, Idea



If no trouble, no intelligence

II) Consistency activity is the driving force for business reformation.

To execute the KAIZEN activities continuously and consistently for company is generally difficult and it is not so long to be continued.

As it is explained in the earlier chapter, many of them did it because there was a command from superiors. It is the festive KAIZEN, when the festival finishes the KAIZEN also finishes.

「現場力で勝つ」

Power of KAIZEN Activities at workshop

-12th Dec, 2005-

This is the sample that explains about the point of continuously practice.

(Sample of KAIZEN: Preparation for heavy metal pressing machine)

In the past, this industry needed the average of 2 hours for preparation. Therefore, the quantities of press parts stock were bulk. Then, there were two companies challenged to shorten the preparation time to reduce the stock inventory.

A company set the target at 1 hour and able to achieve that target 6 months after the KAIZEN was done. The detail to perform the subject was "preparation time ever spends 2 hours".

On the other hand, B company had challenged to shorten this preparing time, they could shorten it in 1 hour by somehow. But their target was set to be 5 minutes, and the detail that they desired to perform was "how to shorten it to be 5 minutes".

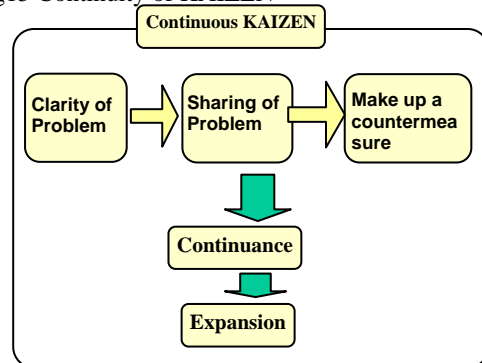
Certainly, KAIZEN activities to shorten the preparing time one hour during A company and B company are mostly not different.

But A company could resolve this problem by shortening ordinary two hours in this business to be one hour, then A company is satisfied and the KAIZEN of this subject was finished.

The Target for B company to change the preparation to be 5 minutes as desired. The distance to achieve target seems unrealizable. But the KAIZEN activities are done silently and continuously for months, after that the target which is thought that it is impossible is achieved.

To challenge with the desirable 5 minutes is "continuously change activities" and it is the built-in continuously system.

Fig15 Continuity of KAIZEN



If the continuance of KAIZEN is not well-established as system, it will be very difficult.

As shown in Figure 16, the clarity of problem comes first. And that clarified subject (ideal appearance included) must be shared to members, and all of them challenge to execute the countermeasures, sometimes the target may be in chaos, troublesome or be troubled, and the "intelligence" will come out and it continues until satisfied. The successful sample will be widely expanded as the result.

The structure includes the followings.

1. Clarity of problem bases on the thoroughness of "visible"
2. Must chase someone into trouble and let him/her execute with no choice.
3. To educate people to practice the KAIZEN activities to generate "intelligence".

III) Systematic Management

Well-established system is to make everybody join on the stage. But if it is done continuously, besides informal group (minority group which is not be particular to objective), the organized backup (system) is needed.

Why does the system be made and promote and expand?

It is not because the proposed KAIZEN activity is focused by administrative who in charge of instructing, educating and training, but it is to strongly expand the operated KAIZEN activity. The objective is to push the KAIZEN activity.

1. Consistent

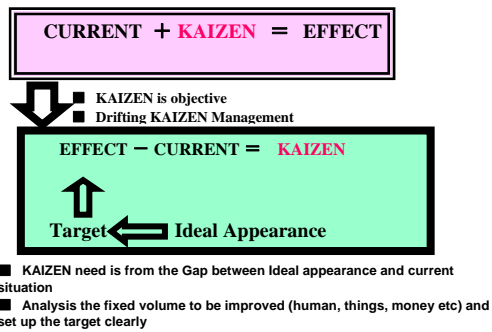
「現場力で勝つ」 Power of KAIZEN Activities at workshop

-12th Dec, 2005-

2. Systematic
3. Conscious

The activities campaign which involves the incentive is needed, up to the level of company.

Fig.16 KAIZEN Mechanism



KAIZEN Mechanism is stated on Figure 16. According to the level, "Current situation + KAIZEN" is the objective of KAIZEN itself to execute, it is not so long to continue. If there is lack of subject, KAIZEN activities stop.

But it does not be like that. Gap between ideal appearance and current situation must be caught up and make it the needs to be improved, and should make it continuously propelled.

Someone shall climb a mountain. The reason is not the mountain exists just there, but it is the mountain which he/she wants to challenge (ideal appearance). In the first case, he/she can climb in light attire without careful preparation. This is the drifting KAIZEN management.

On the other hand, someone needs a careful preparation and utilize intelligence as a tool to make innovation and objectively action. The target is also firmly therefore the continuously practice can be done.

And sometimes, to make a well established structure must do an overall company KAIZEN activities campaign.

For example, the 5S promote tool is shown in Figure 17. Should 5S start promoting for whole company or only some part in organization, the effect will be different. To execute what top management people advice must be admitted by everyone.

Moreover, the superior's policy, the periodically task force, subject, the sample to introduce the situation before and after KAIZEN, the sample from other company, etc. must be bulletined and support everyone to participate. Visiting to the other well-developed factory twice a year should be done because it is useful to develop the consciousness.

Fig.17 Tool for promote 5S

PR Tool	Promote Tool	Evaluation Tool
	Photo at Same Place	Check Sheet
	5S Observed Visit Trip	Top Manager Patrol
	5S Day (Every Month/1Time/1Hour)	Excellent Award and Bulletin

IV) Conscious of Crisis Awareness

The final step to make a well-established structure is to build up a sense of crisis, and it will be excellent if it can be a tension to be shared among all employees. The motivation of crisis awareness starts from the current denial.

It begins from deeply fixed the member to know the company's weakness caused by the changes of time. If all members always share the sense of crisis, it is useful to make KAIZEN activities continuously.

As described below, the conception of current denial is necessary to be a policy for team all the times.

Its operation will change the negative spiritual structure to be positive and it will be the encouragement.

Daily KAIZEN

To think that one success is the departure to another new success.

- MUDA Removal KAIZEN is everlasting subject.
- [That's OK] stops your progression.
- Don't be satisfied with the same success as yesterday.
- Do regret at one success.

「現場力で勝つ」

Power of KAIZEN Activities at workshop

-12th Dec, 2005-

Current denial, repetition of problem discovery and maintaining the crisis awareness is persistently said but it will bring the KAIZEN activities be done continuously and provide the power to continue performance.

When the method and technique of “Just in time” is brought in and “just do it” quite seriously, it is easy to reduce the cost for 10% or 20%, some companies are satisfied with this. If it is thought that enough effectiveness, it is misunderstood and make someone undo the KAIZEN activities. Some companies spend the money which is profit to start another business. At the beginning, there is no feeling about crisis or crisis awareness.

It does not last long and will return to the beginning situation in short while. People always feel relief when the situation goes upturn. But this is difficult to accomplish the “Just in time” manufacturing innovation and KAIZEN activities. If the manufacturing innovation campaign starts, it should be thoroughly run without another way of thinking.

In addition, it is up to how much “continuously executing power” and “intention and enthusiasm to accomplish” are. When we say like this, someone may think that’s a mental theory. But it is either good or bad mechanism to run continuously, but it will continue automatically. So, it’s not mental theory but it is mechanical theory.

The company which thinks that they will roll out the KAIZEN activities because other did it and they themselves want to try or thinks that in order to get close to rivals, that company should not start it. KAIZEN effectiveness will be a few but return to the situation before in a short while.

Lastly, major role of the KAIZEN activities is performed by staff, if the bottom up is done well, nothing is better than this.

But for this KAIZEN and reformation introduction, not only to possess the knowledge it is still difficult to carry out in practice.

Those are not just a simple method and technique, if the “way of thinking, point of view” are not changed from the root, it does not succeed. First of all, if top management does not lead to work and does not induce the bottom up, it does not succeed.

Both top management people and staff are not the persons who understand KAIZEN but must be the persons who execute and are required to make it progressively.

Reference

- JAPAN MANUFACTURING CHANGE TO THIS
.....KANEDA SYUJI
- TOYOTA SYSTEM
..... KADOTA YASHUHIRO
- PROCESS BREAKTHROUGH KNOWHOW
.... SEKINE KENICHI

L.S.AIRU CO.,LTD TANAKA ZENGO
Tel 072-874-5232

(Author: Zengo Tanaka, L. S. R.)



No part of this document may be reproduced in any form, including photocopying or translation to another language, without the prior written consent of Fujitsu PRO-NES(Asia) Pte.Ltd.