

CHANGING THE CORPORATE CULTURE

SOME RULES AND TOOLS

**Myron Tribus, Chairman
Community Quality Coalition**

**and
Director,
Exergy, Inc.
Hayward, CA 94541**

INTRODUCTION

The changing of a corporate culture is, first and foremost, a matter of leadership. For a culture change to be successful there must exist a leader who is empowered to make the change and determined to do it.

“Who will heed the call to battle if the trumpet give forth an uncertain sound?”

The leader should not be beset with doubts. The leader should not wait for the development of a consensus but rather should play an active role in developing it. The consensus should be developed around how best to make the change, not whether to do it.

A change of culture produces a deep and pervasive alteration in the habits and responses of a group. They give up old ways to think and learn new ways to react. They adopt new ways. Change produces doubts and anxieties which may be overcome by a leaders who have learned about the psychology of change. They will not yield to someone who simply tries to bulldoze over all resistance. “A man convinced against his will, is of the same opinion still.” The leader must be persistent but wise enough to know when it is better to wait a short while to allow a dissenter to figure out how to adapt to the new system.

Each enterprise is unique. There is no set formula for making a change of culture. If you are the agent of change, you must begin where the people are and you must lead them forward from that point, not from some other point at which you wish they were.

You can learn from the experience of others who have gone before. This essay is a distillation of lessons learned frm several different enterprises. But no essay can provide the leader with the determination to make the change. That determination comes from within and distinguishes the leader from the mere administrator.

There is, of course, risk in the decision to make a massive change in a culture. That is why so many companies have waited until they faced a crisis before they changed. I have interviewed about a dozen CEO's whose companies have changed to TQM and in each case they were looking into the abyss before they decided to change. Then, and only then, did the risk seem worth taking.

Every enterprise seems to go through a cycle of management styles: Risk taker, care taker and undertaker. It is up to the leader to decide which kind of manager to be.

EDUCATION, MORE EDUCATION, EDUCATION ALL THE WAY

The late Dr. Ishikawa put the matter nicely: "TQC starts with education, is advanced through education and is never finished with education".

The changing of a corporate culture occurs through education. People are required to learn new skills and, to an even larger degree, abandon old ways to think. The most difficult part of changing the way people behave is not so much a matter of teaching them something new; it is mostly a matter of teaching them to forget things which are either incorrect or no longer applicable.

A corporate culture is defined by the practices and protocols people follow as they do their daily work. Culture also includes the values, expressed and implied, which influence the way people react to any proposal. Because we live in rapidly changing times, and are likely to do so forever, it is desirable to create a culture which is flexible and able to change rapidly when conditions require.

It is not just a matter of educating individual people. In his book, "The Lonely Crowd", Jacques Barzun described people as falling in two categories. One he called "inner directed". They seem to have their own compass. They go according to their own ideas. They march to a distant drummer. The other category he called "other directed". These are people who look to others for approval. They act as though they have small radar antennae on their heads, constantly scanning the horizon, to see where the rest of the world is going so they will not be left out. To educate a "culture", requires that the educational process go beyond classroom walls. The process must take into account what people actually do in their daily work and allow for the impact of one person on another.

When discussing how to change a corporate culture, it is useful to consider several related issues:

1. How to gain acceptance of the need to change.

2. How to define the nature of the change--what will be different?
3. How to define what must be learned.
4. How to make learning part of working so the enterprise may continue without paying too high a price for the educational activities.
5. How to educate the entire hierarchy so that the practices and procedures of the enterprise reinforce what is taught and people help one another learn.
6. How to define the knowledge, skills, and competencies which must be learned.
7. How to organize the change effort.
8. How to lead the change of culture.
9. How to evaluate and improve the process itself.
10. How to guarantee that the educational effort is an example of the application of quality management.

LEADING, NOT MANAGING, THE CHANGE TO A LEARNING SOCIETY

A change of culture must be led, it cannot be just “managed”. If an entire enterprise is to start off in a new direction, it will require a visible leader who is leading, not just pointing, the way. Too often managers will say to me, “Division X should be much more careful about quality. I have tried changing the manager, but I just can’t seem to get the people to change”. If only the CEO who tells me such things knew how much he is revealing about himself!

In his first lectures introducing quality management in Japan in 1948, Homer Sarasohn told the Japanese managers:

**THE LEADER MUST, HIMSELF, BE AN EXAMPLE
OF THE CHARACTERISTICS HE WOULD LIKE TO SEE
IN HIS FOLLOWERS.**

Managers must practice what they preach.

**DON’T SAY “FOLLOW ME, I’M BEHIND YOU ALL THE WAY”
(IT MAKES EVERYONE GO IN CIRCLES)**

An enterprise managed by TQM will be involved in constant improvement. It will be a “learning society” as distinct from a “knowing society”. In a “knowing society” it is presumed that everyone knows what to do. To admit, in a “knowing society”, that one does not know something is an admission of inadequacy. In a learning society, on the other hand, it is understood that everyone is constantly learning

something new--learning is part of the job.

In the learning society people understand the difference between stupidity and ignorance. They know:

**IGNORANCE CAN BE CURED.
STUPID IS FOREVER.**

I once heard a general manager addressing his top management team. He said, "I'm so glad you are here for this lecture. I am learning so much about management I never understood before. I want you to learn, too, so we can apply these ideas together." That's leadership.

CREATING AN UNDERSTANDING OF THE NEED TO CHANGE

Don Nordeen of General Motors has described the essential steps required before a change can take place.

1. There is a compelling reason to change.
2. There is a vision of what the change entails--what is to be.
3. There is a sensible first step.

The leader should provide the first item by outlining for the followers the rationale for making a change. Today there are many ways to explain why change is required. The leader can deliver a lecture, or prepare a paper or a videotape for broad distribution. In the presentation the leader can discuss the past performance of the company, relative to the competition, and the various measures of performance which indicate change is required. Benchmarking, that is, comparing the performance of the company with the best in class, is a useful way to demonstrate why change is necessary. Measures of waste, such as scrap, lost time accidents, absenteeism, etc., are indicators of the need to change. In reviewing the need to change the leader should keep in mind that there are many stakeholders in the enterprise and each will want to have particular problems addressed. The people who work in the system will want to see the leader addressing the systems problems and paying attention to those problems which frustrate them. Although the leader may be impelled to action by a near term financial crisis, the call to action should recognize that financial indicators are but the symptoms of underlying causes and should deal with more than financial matters in presenting a vision for the future.

WARNING: In presenting the reasons for change, the leader should accept the responsibility for whatever is wrong. Remember Juran's rule:

**WHENEVER THERE IS A PROBLEM
85% OF THE TIME IT IS IN THE SYSTEM
ONLY 15% OF THE TIME WILL IT BE THE WORKER.**

Therefore, when presenting the data and the analysis which make the change imperative, the leader should avoid blaming anyone--the government, the workers, the union, the salesmen, the office staff, etc. Instead, the leader should say that what is wrong is the system and ask for the cooperation of everyone in studying the system and figuring out how to change it so everyone can gain the satisfaction of doing a better job.

It is not a good idea, either, to blame the problems on predecessors! It is better to say that times have changed and that what was good enough for yesterday will not be good enough for tomorrow.

**DON'T TRY TO FIX THE BLAME.
FIX THE SYSTEM.**

A DIFFERENT ORGANIZING PRINCIPLE

The style of management most people follow today, whether they realize it or not, has been heavily influenced by Frederick Winslow Taylor, known as the father of scientific management. In one of his lectures, entitled "Success" he wrote:

"Every day, year in and year out, each man should ask himself, over and over again, two questions. First, 'What is the name of the man that I am now working for?' and, having answered this definitely, then, 'What does this man want me to do, right now?'

Not, 'What ought I do do in the interests of the company that I am working for" Not, 'What did I agree to do when I came here," but plainly and simply, 'What does this man want me to do?' "

This organizing principle is based on creating strong lines of vertical authority. It is no longer adequate in the era of the knowledge worker. If constant improvement is to be a way of life, the vertical communication channels would become hopelessly clogged if every manager has to approve every change.

This image of a vertically driven activity is to be replaced by a customer driven activity, in which the next person in line is viewed as the customer as much as the final user of the product or service.

For a customer driven activity to succeed, each manager should ask:

What is the system for which I am responsible? Who are its customers? What do they require? How do the customers define excellence in the output of the system? Do the people working in the system understand the customer's definition of excellence? What do they see as the barriers to excellent performance? What can I do to change the system to remove these barriers? How can they help me to make and monitor the change? What changes can we make which will go beyond that?

This is such a dramatic change of basic beliefs from Taylor's vision of how to operate an enterprise, that we should not wonder that it takes time for people to absorb and accept it. The difference has been called "Management by Policy" to distinguish it from "Management by Directive".

Under Management by Policy, the top management determines the the policies by which the company is to operate. Each manager is expected to develop a "local" interpretation of the policies which is to be reviewed for consistency by the next echelon above. The local policy is then used for decision making at the appropriate level, without the need to refer the issue to a higher level. By following the policy and attempting to satisfy the customer (next in line) each person is to be helped by his or her manager to do a better job. "Better" in this case is defined by the policy and the customer. This idea is totally at variance with the Taylor philosophy. We should not wonder that it takes time for people to adjust. The educational effort should be designed to help people to experience this change and, thereby, understand it.

DEVELOPING A VISION OF WHAT THE FUTURE CAN BE LIKE

Today there are many books and video tapes which present a vision of what TQM is all about. Deming's book¹, the books by Masaaki Imai² and by Hayes, Wheelwright and Clark³ are all very inspirational. Videotapes, by Dr. Deming⁴ are also available.

¹ W. Edwards Deming, Out Of The Crisis, Center for Advanced Engineering Study, MIT, Cambridge, MA 1982

² Masaaki Imai, Kaizen, The Key to Japan's Competitive Success, Random House, New York 1986

³ Robert H. Hayes, Steven C. Wheelwright, Kim B. Clark Dynamic Manufacturing: Creating the Learning Organization Free Press, MacMillan, New York, 1988

⁴ "The Deming Library", a series of videotapes on quality management presents popular treatments of the need to change and what the change entails. Films Incorporated, 5547 N. Ravenswood Avenue, Chicago, ILL 60640-1199

A general meeting to discuss the move to TQM should NOT be held until a strategy has been developed for making the change and the first steps have been planned. Bill Golomski has made a useful distinction between a strategy and a plan:

PLAN:

When you know what you want to do and you know how to do it, you plan by working backwards from the final situation to where you are now. Each step of the plan is developed to support the NEXT step.

STRATEGY:

When you know what you want to do, but you cannot be sure in advance exactly how you will do it, you develop a strategy, in which each step of the strategy is developed based upon what you learned at the PREVIOUS step. Only the first step can be planned.

Therefore, when you develop a vision for the future, you can only describe the strategy for how you expect the transition to occur. Your description of what will be done first can be quite definite, which reassures people that you know what you are doing. At the same time, the description of the follow on steps will have to be predicated on how well the first few steps are taken.

Designing the Educational Experience

Figure 1 shows two conceptual frameworks for educational systems. In the top part of the diagram we show the conventional view. It is based upon considering the learners as important customers of the educational system. The management is also a customer and the system should be designed to take into account both the needs expressed by the managers and the wants expressed by the learners. Unless both are satisfied, the educational process will not succeed in meeting their legitimate needs.

The top portion of figure 1 shows a plan for education. The bottom part of the figure shows a strategy for education.

CONCERNING THE STYLE OF THE EDUCATIONAL PROCESS

Figure 1 shows a list of potential resources of education. Note that the first item on the list is the work itself. The best basis for education is often the work itself. When people investigate the work they are doing, and through that investigation they learn to understand their situation and improve it, they do not feel as though they are being educated; they feel they are learning. Adults, in general, do not seek abstract information. They want to know how to apply what they learn and they want help with the problems they have. Dealing with their daily problems provides

the context in which they can do this. With the help of a skilled facilitator, the experience can be highly productive.

Malcolm Knowles has written extensively on the fundamentals of “Andragogy”, which means “teaching of adults”, to distinguish it from “Pedagogy”, i.e. “teaching children”. Adults should not be treated as though they were oversized children.⁵

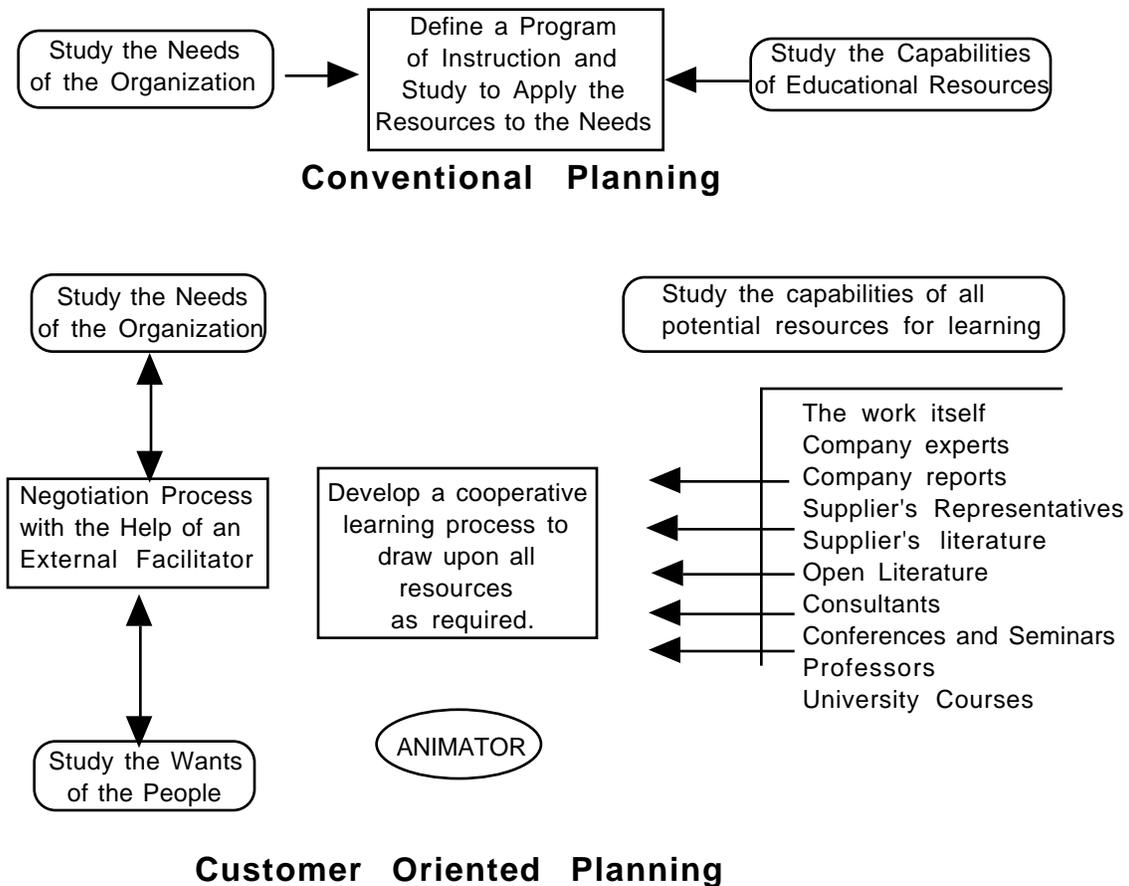


Figure 1. Conventional planning does not attract customers. Customer oriented planning can satisfy both the management and the learners, provided their differences in perspective are discussed beforehand.

Although it may appear to be more efficient to plan a “program”, because it seems easier to describe what is to be learned, how long it will take and how much it will

⁵ Knowles, M.S., *Andragogy in Action*, Jossey-Bass, San Francisco (1984)
 Knowles, M.S., *The Adult Learner: A Neglected Species*, (3rd Edition), Gulf, Houston (1984)
 Knowles, M.S., *The Modern Practice of Adult Education*, (2nd Edition) Cambridge Press, New York (1980)

cost, in reality educational programs of the the type described at the top of figure 1 are very inefficient. The test of the quality of the effort should be how many people can be observed at work, applying what they have learned. When this is done, the “precooked program” does not score very well.

Of course, we should distinguish between training and education.

Training prepares you to do the job in front of you, today. It is there and you need to know how to do it, right now.

Education prepares you to do the job which will be in front of you, tomorrow. It is not there yet and no one knows how to do it. You must decide to investigate it now if you are to be prepared when it comes.

Training can be scheduled and can be efficient. Education, when given on a tightly scheduled program, is inefficient and gives only the appearance of education.

Describing What Is To Be Learned and How it Will be Taught

Enterprises consist of people with varying levels of education. For many, the school years were not a pleasant experience. Bertrand Schwartz has described the situation in France by saying: “We can recognize at least two streams of students. In the first stream the students begin by thinking that what the teacher has to say is not very important. They do not pay much attention and do not work very hard. There as so many of them that the teachers just pass them along. They leave school at the earliest opportunity and they find jobs in which education has not been important. They therefore justify to themselves (and later to their children) that what was taught in school did not matter. The second stream consists of a fewer number of children who believe that what teachers say is very important. They do their best to understand and because they gain praise from the teacher, they find school very enjoyable. They stay in school as long as they can and when they leave they get jobs in which education is important. This reinforces their original beliefs and they pass these on to their children. Unfortunately, the world is changing rapidly and there are few jobs for the first stream.”

In planning the educational activities, it is useful to keep in mind the distinctions between teaching and learning on the one hand and between knowledge and Know-how on the other.

Teaching:

When I show you how I solve a problem, that is teaching.

Learning:

When you figure out how you will solve your problem, that is learning.

This distinction becomes more significant when we recall the distinction between knowledge and Know-how

Knowledge

Knowledge enables us to connect what we learn to the other things we already know. Knowledge enables us to generalize our specific experiences, so we may apply what is learned to another, different, situation. Knowledge makes it possible for us to understand.

Know-how

Know-how enables us to apply general knowledge to a specific case. Know-how makes knowledge useful. Know-how makes it possible for us to do.

In general, busy adults, who feel they must compete for a living, are hesitant to take time out from their work to go back to school. Their memories of school are that it was a place to obtain knowledge, not know-how. For many of them, the time spent was not very efficient. In the words of one song from years ago,

*“We’re working our way through college
To get a lot of knowledge
That we’ll probably never, never use again”*

Therefore, the approach to education at the place of work should be to emphasize know-how. The best way to teach know-how is through problems which arise in the work itself.

From these considerations, the best form of education will have the following attributes:

- a Concentration on providing competence through emphasis on know-how, imparting knowledge only as some students may require it.
- b Students should apply what is learned to problems drawn from their daily work. If this is not possible, probably what is being taught is not useful.

- c After learners have succeeded in making an application, some time should be spent in giving knowledge, that is, in gaining a better understanding of why the method worked and how to generalize it.

In school students grow accustomed to problems which are described by “Given this... find that”. In real life, people are not given problems. They have to find and identify them. Therefore, while instruction should begin with the teacher identifying an example taken from the place of work, this instruction should be followed by teaching the students how to recognize and define problems from their own work. Instructors should aim to develop competency in the students.

Competencies may be defined at several levels. Each level entails greater and greater autonomy. Not every person needs to reach the same level of competency. It is very wasteful to educate everyone to the same level. Furthermore, when people do not make use of what is learned in the context of their daily work, they are apt to become cynical about their experience. This cynicism, unfortunately, is contagious, since so many people have their radars working to find out which way the crowd is moving.

LEVELS OF COMPETENCE

Level	Capability	How Acquired
0	To understand what people are talking about	Reading, attending a lecture.
1	To carry out an assigned, well defined task	On the job training.
2	To recognize an ordinary kind of problem and do it with minor supervision.	Class room plus field experience.
3	To recognize an un-ordinary problem and seek help in resolving it.	Discussion with an expert regarding the knowledge base on which the work depends.
4	To recognize that a problem posed is not conventional and to devise a method to solve it.	Advanced theoretical instruction.
5	To recognize a previously unrecognized problem and to develop a useful way to deal with it.	Experience in R&D

In considering the instruction which should be given to different people in the enterprise, it is useful to keep in mind these levels of competence. For example, with respect to elementary methods in statistics (the “seven methods” of Ishikawa, for example) it is likely that everyone in the enterprise should be instructed at level 2, but engineers should go to at least level 3. With respect to quality function deployment, we would expect all purchasing agents to at least get to level 0.

Over time, of course, people should expect to go to higher and higher levels of competence in various topics, as their work assignments require it. The highest levels of management should be continuously increasing their competence in all aspects of their work. They should be examples of continuous learners.

Continuous Improvement=Continuous Education

Breaking Habits of People and Cultures

Don Nordeen developed the following diagram to help describe how to influence the way people approach their tasks.

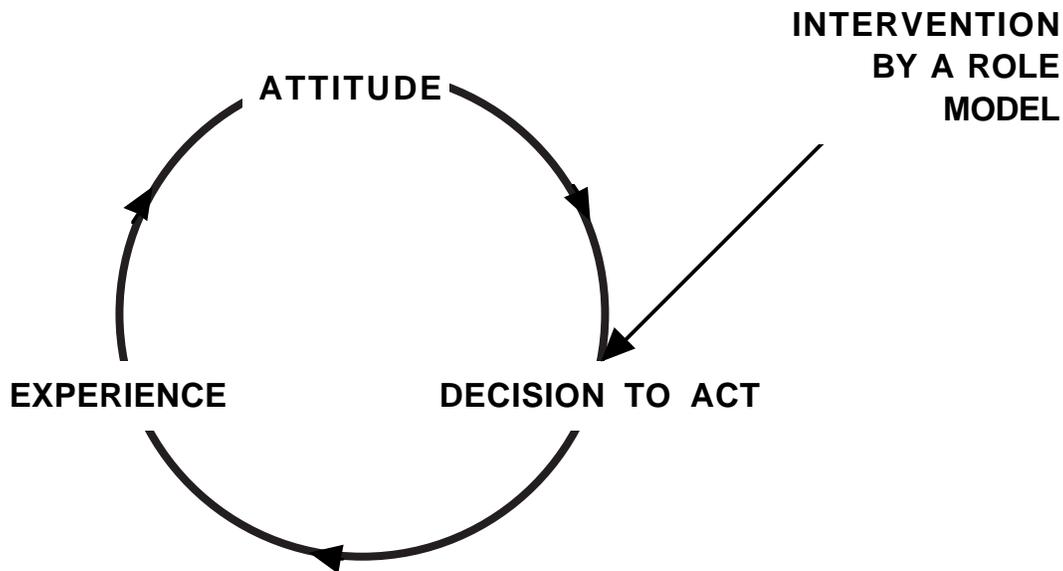


Figure 2. The cycle of habit. It takes a role model to intervene and the intervention must be at the level of decision making.

As indicated in figure 2, people appear to be caught in a cycle. Their attitude causes

them to decide how to act or react. This action leads to experience which, in all too many cases, serves to reinforce their attitude. It is useless to try to get such people to change by talking to them about their attitude. Everyone has a well developed filter which makes it impossible for them to hear what you say. Instead, someone who can play the role of a mentor should intervene at the level of decision making. Then, when a good experience has been obtained, it is possible to discuss this experience and help people learn from it.

At the corporate level, a similar diagram applies.

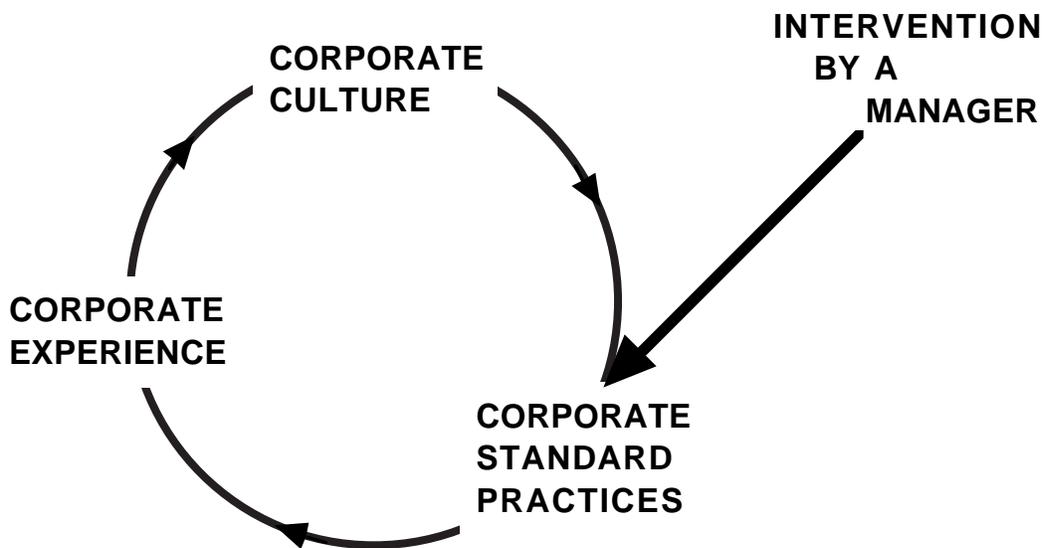


Figure 3. The corporate cycle. Only managers are authorized to change corporate practices.

The body of corporate standard practices represents the way decisions are made about what to do. Only managers have the authority to change these practices.

From figure 3 it is obvious that not only is it necessary to teach individual people new ways to do things; the corporation itself needs to change its practices.

Philosophical Foundations

Just as most people live their lives without thinking too deeply about the philosophy by which they live, so it is that corporations tend to operate with their philosophy “understood”, which usually means that very few people know what it is.

The philosophies which guide people are influenced, and in turn influence, the image they have of the world. When a person says, "It's a jungle out there", you know you will have a difficult time persuading that person that "Do unto others as you would have others do unto you" is a viable philosophy.

People do not change their philosophies easily. It usually takes a traumatic experience to induce them to change. President Nixon, in reviewing his Presidency, especially the Watergate Scandal, said, in a television interview, ruefully: "I should have chosen the moral high ground".

If you want to understand why people make specific decisions, you should first ask them what they are trying to accomplish. If they do not have a purpose, you cannot offer them good advice, except, perhaps that they need to have a purpose in their life. If you don't care where you go, any road will take you there.

Any concerted effort to change corporate practices, therefore, inescapably raises the question of corporate purpose. Every enterprise may be thought of as having two spigots. From one there pour the goods and services society requires. From the other there flow tokens with which one may purchase goods and services. Which spigot is considered the most important determines the character of the enterprise.



Figure 4. What is the purpose? Which spigot is primary?

If the management wishes to enroll a thousand people in a team effort to improve the company, the purpose of the company, as expressed in its statement of goals and purposes, should be such as to capture their hearts and minds. It should be noble.

TQM can only flourish in a philosophy which embodies such ideas as:

- Most people want to do a good job and want to be proud of what they do.
- Enterprises derive their legitimacy because of the services and goods they produce for society. A business is not just a money pump.

- People want to be associated with an enterprise whose purposes make them feel proud.
- People have brains and want to use them. They are capable of development.
- The complex systems of modern society require teamwork for their successful operation.
- While individual initiative is to be prized and encouraged, the total performance of an enterprise is determined more by the systems in which people work than it is by their individual initiatives.
- Most people are already motivated. Management's job is remove the barriers to pride of accomplishment.
- Constant improvement is required to retain a competitive position--it must be a way of life for an enterprise to succeed.

There are other points of philosophy in TQM which have been discussed elsewhere⁶. The main point is that before starting the transformation of culture, it is essential that the top management reconsider the statement of purposes and goals for the company. It will probably be necessary to redraft it several times before it is satisfactory. The statement of purpose should be tested by having it critiqued by the customers of the statement, i.e., the people who work for the enterprise. The statement of purpose should indicate the philosophy of the company with respect to its products and services and its "stakeholders". For each stakeholder, the policy should be explicit, so people understand what to expect.

- The product and services--does the company aim to be the best?
- The customers--does the company intend to please them?
- The employees--are workers just a commodity?
- The suppliers--are they partners?
- The public--what should it expect.
- The shareholders.

After the statement has been prepared, each manager should be asked to interpret it with respect to his or her department and see if it is operational. Do not be surprised if it takes more than a year to create a satisfactory document. The problem is not so much in the writing, as it is in agreeing on what is meant. After a year of discussion the top managements of many companies have found themselves with entirely

⁶ Quality First, National Society of Professional Engineers, 1420 King Street, Alexandria, VA, 22314, Publication 1459

different views from when they started. It takes time for people to feel free about expressing themselves regarding previous activities of the company. For people far removed from the responsibility for keeping the company going, it also takes time for them to understand the realities of the business environment.

Unless and until the top management is in good agreement on what they want the company to become, its purpose and its relation to the workforce, there is no point in beginning. When the top echelons of a company issue conflicting signals and when the workforce perceives different opinions, they will just wait until the political process points to a winner. If the management does not commit itself to the change and understand it in the same way, no one else will either.

Reviewing Company Practices, Procedures, Protocols, Privileges and Politics

Some companies have established committees to review and comment upon current business practices. For example, Dr. Deming has listed 14 points for managers to consider.⁷ Other companies have made it a practice to apprise their employees of Deming's points and have invited comments on company policies and practices which seem to conflict with them.

Just as individual people have a problem in deciding to take a different action than their life experiences suggest (See figure 2), so, too, do corporations. Admonitions such as "eliminate numerical targets for the workforce" go down hard with managers who earned their stripes by meeting and beating targets. It takes time for them and the hierarchy to accumulate enough experience with a different way to manage before they can change their practices.

One of the first tasks the top management should undertake, as part of their educational process, should be to read various books which describe the new way to manage and discuss these books among themselves. A good practice is to agree that all managers will read the same book and then discuss it for a few hours, with one person assigned to pick out the main points and help the others to develop an opinion on it. Brian Joiner prepared a list of readings and other resources which is reproduced in the appendix.⁸

ORGANIZING FOR QUALITY

In the conventional approach to management, a separate department of quality

⁷ See reference 1

⁸ Joiner, Brian. L. "7 Steps for Improvement", presented before the William G. Hunter Conference on Quality, 9-11 May 1990, Madison, WI (Write to MAQIN, 1010 Mound Street, Madison, WI 53715)

assurance is often created and given the assignment to “assure quality”. This is a hopeless assignment. All such an organization can do is to assure that minimum standards have been met, which, of course, is not the path to constant improvement. Instead, quality improvement should become a way of life for everyone. If this objective is to be met, quality cannot be something outside of daily work; it has to become daily work. The approach to quality management, therefore, should be an integral part of the managerial structure.

If we visualize the usual organizational chart, we can imagine that built into it there will be a committee structure, part of the line organization, which is concerned with quality improvement. At the top, the structure might look as in figure 5.

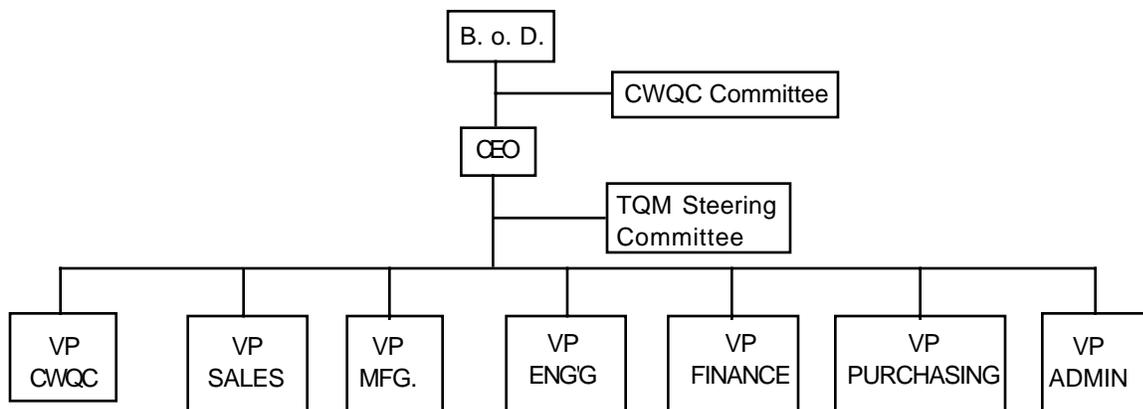


Figure 5. The quality committee of the board and the CEO’s TQM Steering Committee have the responsibility to see how TQM is progressing and to see how to make it progress better..

Each manager should be expected to have a local steering committee which is related to the TQM steering committee.⁹ If we were to examine the organization chart in finer detail, at each managerial level we should find something like figure 6.

⁹ In a previous article I described these committees as “Quality Circles at the Top”. See “Reducing Deming’s 14 Points to Practice”, NSPE Publication 1459 Quality First (National Society of Professional Engineers, P.O. Box 96163, Washington, D.C., 20090-6163.

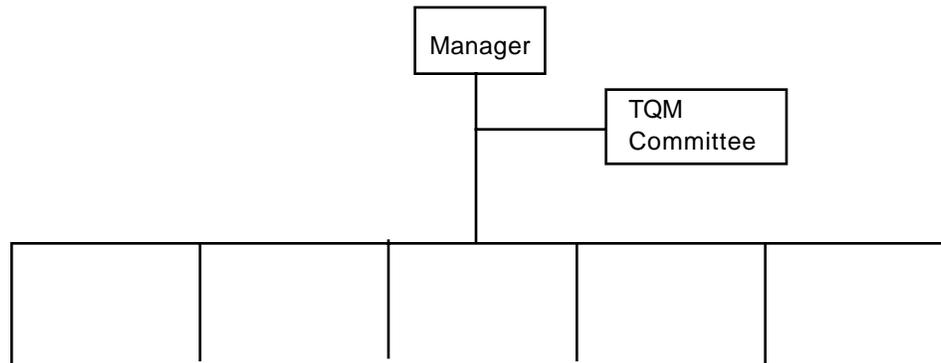


Figure 6. Each manager is expected to have a local steering committee or local TQM committee.

The committee of the board should be concerned with the overall progress of TQM within the enterprise. It should be kept apprised of the effort the company is making towards constant improvement and should examine the indicators of progress.

The TQM steering committee should be led by the CEO and should be concerned with the improvement of the systems of the company which cut across all departments. The TQM steering committee should consist of all the staff members who report directly to the CEO.

The vice president for CWQC (or VP for TQM, the title does not matter) should maintain a support secretariat service, which provides for the TQM Steering Committee and the various subsidiary committees, a channel for direct communication and linking of projects. Just as the Vice President of Finance has historically been accountable for the practices and reporting of financial matters, so the VP of CWQC will be accountable for knowing and disseminating the latest information on TQM, for the oversight of training, for providing consulting services as required, and for guiding the preparation of the overall progress reports for the enterprise.

DEVELOPING A STRATEGY FOR CHANGE OF CULTURE AND LEADING IT

In the previous paragraphs I have described some of the barriers to change, outlined some of the educational issues and discussed how the effort should be organized to be part of the existing lines of authority. After these matters have been decided, and before the top management has declared the company intention to change its methods of management to make TQM a way of life, it is essential that the top managers be agreed upon the strategy they will follow in making the change of

culture. (Recall again the difference between a plan and a strategy.)

At this point the management understands why the change is necessary, to what they must change, when (now) they must change, who (they and everyone) must change, where (everywhere) the changes must occur and now they have to decide how to make the change.¹⁰ The development of a strategy defines an essential aspect of the “how”.

The difficulty for any enterprise is that the resources available for making the change are limited. The organization must change itself while remaining in business. Since the change involves a massive effort at education, the most scarce resource will be people to do the training. Experience points to the principle of self-sufficiency:

The enterprise will have to generate its own educational resources. It will not be able to rely upon outside resources for the long term. Outsiders may help launch the effort. Outsiders should not be relied upon to sustain it.

Survival in a world of changing requirements, new technologies and increasing competitiveness requires constant change. It is necessary to move through a progression:

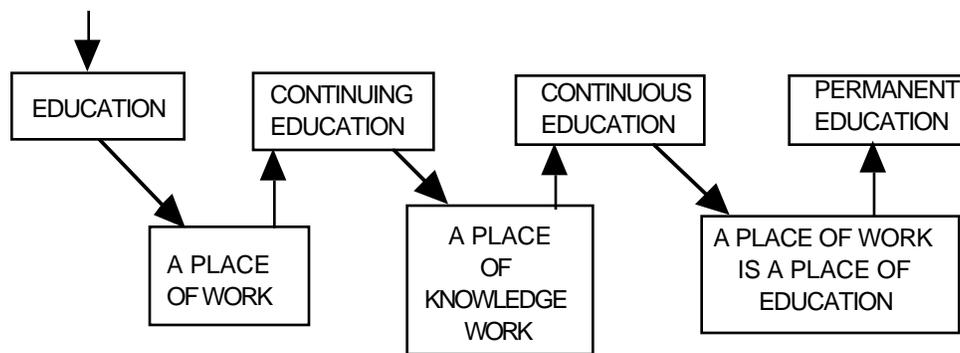


Figure 7. A progression of ideas regarding work and education.

Once it is understood that an enterprise is moving along the path indicated in figure 7, it becomes apparent that all managers must also become teachers. In addition, many non-managers will become teachers as their studies make them experts in a particular subject matter. For example, it is not difficult to visualize a group of purchasing agents learning about the characteristics of certain materials they purchase by listening to a worker who has become a specialist in machining difficult materials. While the scientific knowledge of the process may be in the province of

¹⁰ An important TQM principle in planning is often called “5 W’s and an H”. Ask “why, what, when, where, who and how?”

the engineer, the know-how may well be much better understood by a technician, especially if the technician has taken it upon himself or herself to study the improvement possibilities.

The definition of a manager's job given in previous publications¹¹ has to be expanded.

**The People work IN a system.
The Manager should work ON the system,
to Improve it
WITH THEIR HELP.**

**Every manager
must become
a Mentor.**

Mentoring is now a part of managing. Each manager is responsible to teach his or her subordinates.

To be a mentor implies a greater competence than just the bare minimum required on a job.

In the beginning of the transformation process, it is not possible to meet this ideal. To help the managers over this difficulty, facilitators are often trained. These are people who are taken from their normal jobs and given an intensive training, usually lasting over several weeks. After this training they return to their jobs on a half time basis and the other half time they act as assistants to managers who are attempting to train their subordinates. They also act as consultants to various improvement teams and steering committees. It seems to require about 1 facilitator for 20 to 30 people, so it will require about 3 to 5% of the population be selected for this special training.

In this version of changing the culture, we see managers teaching managers the elements of TQM, assisted by facilitators. The educational process begins from the top down.

THE ROLE OF PROJECT INSTRUCTION

As indicated in figure 1, the work itself is the best medium of instruction. As part of the training in TQM, every learner should be involved in an improvement project

¹¹ See reference 5.

which involves the work in which the learner is normally engaged. In this way the results of the learning will be directly applied to the work. In most cases the cost of the instruction and the time taken away from regular work will more than be paid back by the improvements achieved.

Using the work itself as a medium of instruction has other advantages. Adults do not like to be treated as though they had nothing to contribute. When their own work is the subject of investigation, they are naturally in a position to make a contribution to the educational process. If everything which is introduced in the instructional process comes from the teacher, the learners will not be involved.

Projects also give people a chance to apply what they learn. The words of Confucius are as applicable today as they were centuries ago:

I hear---and I forget.

I see----and I remember.

I do-----and I understand.

AN ELEMENT OF STRATEGY--TARGETS OF OPPORTUNITY

While the overall strategy for converting the culture should be a “top down” strategy, with the top management learning first and then each manager teaching subordinates, this approach does take some time. It is useful to have some examples of success within the enterprise and therefore, it is a good idea to carry out a few projects early in the process. The top management is well advised to locate a few people in the organization who are eager to get on with it. These “targets of opportunity” should be supported whole heartedly and given the resources and encouragement to make an applications. In the Nashua Corporation, for example, a team was appointed by the management to look into the improvement of the manufacture of disks used for computer storage. Their investigation took them into areas of metallurgy, purchasing of aluminum, formulation of the coating and the use of SPC in process control. A project like this can be done before most of the management has completed its initial training and can be used by way of example to show that “it really works here”.

A good policy to follow is to have the lowest level person who actively participated in the project be the person to make the presentation at the highest levels of the company. Such a policy has two benefits: a) It helps the top management understand that the brainpower at the lower levels is an important resource and b) it helps the lower level employees understand that the top management is involved. It also gets the message across to other department managers, who at first may be reluctant to become deeply involved, that the change is happening and they better join in.

EVALUATING AND IMPROVING THE CHANGE PROCESS ITSELF

One of the responsibilities of the TQM steering committee should be to monitor and observe the quality of the process of changing the culture. The VP for CWQC should prepare run charts showing such indicators as:

- 1 The number of people who have been trained, by department and level.
- 2 The fraction of people trained who are applying their knowledge.
- 3 The number of teams created and how often they meet.
- 4 The number of projects completed.
- 5 The barriers people say they are encountering in putting their training to use. A Pareto chart should be prepared to illustrate which barriers are most frequent and, therefore, should be addressed by the TQM steering committee.

A deployment flow chart should be prepared describing the process by which the transformation is expected to occur and progress compared with the flow chart. It will probably be necessary to redraw the chart as the transformation progresses and people understand better how to do it.

CONCLUSION

The changeover process is never a tidy one. In this review all that could be done was present a few rules of thumb and a few principles from adult education.

There is no “right way” to do it. What is important is that you do it.

RECOMMENDED READINGS¹²

Management Principles

Carlisle, John and Parker, Robert C. Beyond Negotiation John Wiley and Sons, New York, 1989

Deming, W. Edwards, Out of the Crisis, Center for Advanced Engineering Study, MIT, Cambridge, MA 02139. (1986).

Fuller, F. Timothy, "Eliminating Complexity from Work: Improving Productivity by Enhancing Quality" *National Productivity Review* Autumn 1985 pp 327-344.

Gitlow, Howard and Gitlow, Shelly, The Deming Guide to Quality and Competitive Position, Prentice-Hall, Englewood Cliffs, NJ (1987)

Hayes, Robert H., Wheelwright, Steven C. and Clark, Kim, Dynamic Manufacturing: Creating the Learning Organization Free Press/Macmillan, Inc., New York (1988)

Imai, Masaaki, Kaizen: The Key to Japan's Competitive Success Random House, New York 1986.

Ishikawa, Kaoru, What is Total Quality Control? The Japanese Way Quality Press/Prentice Hall, Englewood Cliffs, NJ 1985

Joiner, Brian L., "The Key Role of Statisticians in the Transformation of North American Industry", *The American Statistician* Vol 39, No. 3, pp 224-227, 1985.

Juran, Joseph M., Juran on Planning for Quality Free Press/MacMillan, Inc. New York, 1988.

Mann, Nancy, The Keys to Excellence, The Story of the Deming Philosophy (1985) Prestwick Books, 2106 Wilshire Blvd., Santa Monica, California, 90403.

Mizuno, Shigeru, Company Wide Total Quality Control, Asian Productivity Organization 1988 (UNIPUB, One Water Stree, White Plains, NY 10601 (800) 247 8519)

Nemoto, Masao Total Quality Control for Management: Strategies and Techniques from Toyota and Toyoda Gosei, Prentice Hall, Englewood Cliffs, NJ 1987

¹² This list was developed by first copying the list prepared by Brian Joiner, as presented to the 1990 William G. Hunter Conference, and then adding a few references which I have found also useful.

Scherkenback, William W., The Deming Route to Quality and Productivity, Mercury Press/Fairchild Publications, 1987 Rockville, MD.

Scholtes, Peter R, "An Elaboration on Deming's Teachings on Performance Appraisal", Joiner Associates, Inc., PO Box 5445, Madison, Wi 53705 (608) 238 8134 (1987)

Scholtes, Peter R and Heero Hacquebord, "Beginning the Quality Transformation, Part 1" *Quality Progress*, July 1988, pp 28-33. (Joiner Associates, Inc., PO Box 5445, Madison, Wi 53705 (608) 238 8134)

Scholtes, Peter R and Heero Hacquebord, "Six Strategies for Beginning the Quality Transformation", *Quality Progress*, August 1988, pp 44-48. (Joiner Associates, Inc., PO Box 5445, Madison, Wi 53705 (608) 238 8134)

Tribus, Myron, Quality First: Selected Papers on Quality and Productivity Improvement, NSPE Publication 1459 (National Society of Professional Engineers, 1420 King Street, Alexandria, VA 22314 (703) 684 2882) 1990.

Walton, Mary, The Deming Management Method, Putnam Publishing, New York, 1986.

TOOLS AND TECHNIQUES

Continuing Process Control and Process Capability Improvement, a Ford Motor Company Publication. Available from: Statistical Methods Office, Operations Support Staff, Ford Motor Company, Room 524, World Headquarters, PO Box 1899, Dearborn, MI 48121-1899.

Ishikawa, Kaoru, *Guide to Quality Control* , 1976, Asian Productivity Organization 1976. (UNIPUB, One Water Street, White Plains, NY 10601 (800) 247 8519.)

Kume, Hitoshi, Statistical Methods for Quality Improvement, The Association for Overseas Technical Scholars, 1985, Tokyo (UNIPUB, One Water Stree, White Plains, NY 10601 (800) 247 8519)

Scholtes, Peter J. The Team Handbook (Joiner Associates, Inc., PO Box 5445, Madison, Wi 53705 (608) 238 8134) 1988.

Shingo, Shigeo, Zero Quality Control: Source Inspection and the Poka-Yoke Sytem, Productivity press, Stamford, CT 1986

Wheeler, Donald J and Chambers, David S. Understanding Statistical Process Control, Statistical Process Controls, 7026 Shadyland Drive, Knoxville, TN 37919 (615) 584 5005

VIDEOS

The Deming Library, Films Incorporated, 5547 N. Ravenswood Avenue, Chicago, Ill 60640-1199 (800) 323 4222 Ext. 44

Deployment Flow Charting, Quality and Productivity, 1081 Westwood Blvd., Suite 214, Los Angeles, CA 90024

Action Plans for Implementing Quality and Productivity, Center for Advanced Engineering Study, MIT, Cambridge, MA 02139 (617) 253 7444