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Total Quality Leadership (TQL) by Quality Assurance in the Engineering College in India

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Abstract: Leadership means, "Process of influencing group activities towards the accomplishment of goals in a given situation "and from the said definition says:
Leadership is a relationship between two or more.
Leadership does not grow in a vacuum.
Leadership is function of a leader, etc.
Therefore, Total Quality Leadership is a strategic approach to producing best students from the Engineering College in India and in this regard , the new economic policies of the Govt of India aimed at globalization represent a Copernican Revolution in economic thinking in this country like India.
For the competitive environment, TQL has gained wide importance in industry and is generally being introduced in Educational Institutions like Engineering College in India. However, educational system can't be treated as industry. But there are similarities with respect to their sub-components. Each of these viewed as a system consists of input, process, management, resources, output and feedback. For the engineering colleges the system is complex, as it involves human beings as input to and output from the system. Students are input and customer too.
Key words: Commitment, Continuous Improvement, Pareto Analysis, Quality Assurance, skill development, Total Quality Leadership, Total Quality Management, Wisdom.

1. Introduction:

Total Quality Circle (TQC), is a group of activity and can't be done individuals. It calls team work. TQC is not miracle drugs, its properties are more like those of China herb medicine.
TQL in Engineering Colleges in India is depending on commitment. Commitment is the foundation of an effective Total Quality Management (TQM) programme for Engineering Colleges in India and Ten commitment of TQM towards TQL development, special references to the Engineering Colleges:
2.1. *Search for challenging opportunities to change, grow, innovates and improves on the quality of education in engineering based stream.*
2.2. Experiment task risk and learn from the mistakes from the teaching methods.
2.3. Have a great vision for the future.
2.4. Make other participate in the vision plane by convincing them.
2.5. *Bring about collaboration by team building trust among teachers fraternities.*
2.6. Strengthen others by sharing all relevant information and delegate authority whenever possible.
2.7. Set an example for others as teachers by behaving in ways that is suited to your responsibility.
2.8. Plan for small successes that can promote constant progress and bring about commitment.
2.9. Recognize individual contributions to the success of every project for the quality of engineering education towards Make in India conception.
2.10. Celebrate team accomplishment and success regularly, etc…

2. Literature Review:

Due to the LPG era, vocational education becomes a new mantra for skill development at the down of 21st century. This concept has adversely affected of the third world countries including India. Now the concept, how best one can perform, dominates the kingdom of quality education. So, most of the best institutions of today, prescribes the great book the Geeta as Management Guru, yoga- karmagu Kausalam (i.e. the skill of work is yoga) and Total Quality Circle (TQC) is being offered as a plausible answer.

Mahatma Gandhi, father of Nation pointed out that the education system should also lay greater emphasis on work and practice while learning. He said that every citizen should be educated and the education must be job oriented for a better world and in this regard, Gandhian ideas focus on experiment.

Because, the last century the 20th one was dominated by Europe, and the USA and to some extent by Japan. But, it is a fact that the present century will be dominated by Asia-Pacific Region and very soon India will be ousted from the race. For example, in the year of 2000, it was estimated that 70% of the Hardware industries was under the control of China and 70% of the Software industries was under the Indian control. But astonishingly, the year of 2001-2002, picture was that China is going to chunk the major share of both Hardware and Software sectors.

Quality Circle means, " It is a small group of teachers in the same work area or doing similar type of work who voluntarily meet regularly for about to identify , analyses and resolve work related problems, not only improve quality of education and total performance of educational institution". A philosophy to contribute to the improvement and development of Engineering Colleges are consist by –

3.1. *Teachers develop their ability, wisdom and creativity by using their brain.*
3.2. Teachers educate themselves by sharing experienced.
3.3. Teachers do not work in isolation but act as them.
3.4. Display Human capabilities fully.
3.5. It promotes job involvement and participation etc.

Sometimes back, a Seminar was held by QCFI at Kanpur, a question was by someone audience, and it was left to the two Quality Circle members who had come from Hyderabad to answer it for inter group affect the working of quality circles that one of them was the Secretary of one of the trade unions, the other was an office bearer of a rival union which each one of them would be working for one's own union on getting back to the organization , they would also work untidily so far as quality circles were concerned. In other works, if the concept of quality circles was correctly disseminated and understood, there is no scope for any intra or intra union problems coming in the way of its healthy operation.

Therefore, it is important if quality circles are to succeed in Engineering College, that no situation is created by anybody, including, including teachers and staff as well as students also, which might antagonize non-members. In any work situation teachers have performance to involve non-members too in implementation of the solutions. It has therefore to be emphasized during the training of QC members as teachers and institutional head that every opportunity should be given to non-members to see for them the achievements and activities of Quality Circles and efforts must be made to tactfully involve them in implementation of solutions. A competent Head of Institutions therefore would invite non-members to come to Quality Circle meetings as well as to attend periodical case study presentations.

On the other hand, sometimes as member from the QC departments are creating problems, particularly by Jr. Teacher and Sr. Teacher of the educational institutions, because they feel:

1) *Quality circles may show up their deficiencies.*
2) *QC dilutes their authority and importance.*
3) *QC makes their superiors find fault with them for not having solved the problems earlier etc.*

This misconceptions can be eradicated by suitable advice from the Head of the Departments or Head of the Engineering c by explaining colleges that the successful working of quality circle would not only bring credit to their work – areas but also would afford them more free time for other important work. A quarter exposures to the concept and achievements of Quality Circles would also help them to appreciate the need of Quality Circles and in this way to help them develop a positive attitude. In India, less Engineering Colleges are introducing of Quality Circle. The opened up and liberalized higher technical education policy in India is competitive. System approach for higher technical education i.e. slow, in effective processes and procedures to survive for dynamic environment, and therefore management tool, like Taguchi method is being offered as a plausible answer to the problems of present scenario.

Dr. G. Taguchi is famous for his methods for improving quality at low cost. This approach helps to determine the loss due to lack of quality of a performance characteristic and relate its deviation from the targeted performance. Taguchi methodology applies analytical and experimental techniques to identify the real cause of problem and Taguchi method will be better only when it is applied as a part of the TQM process.

It was learnt that over 60 countries are now operating Quality circles including India also and areas of i.e. Administration, Engineering, Academic institution (Educational Institution), Banks, Industries etc. which the participate concept has been adapted.

Those who believed that Quality circle philosophy would not work in educational institutions, are surprised to know that in China, there are over 148000 circles (including industries and Trade). The fact that delegates from USSR were among those who attended the ICQCC – 89 in N. Delhi, proves that even a regimented environment special reference to skill development

3. Methodology:

Total Quality Leadership in educational institutions in India is depending on commitment. Commitment is the foundation of an effective Total Quality Management (TQM) programme.
Action planning is the key to success of the whole approach, if the management team fails to come up with a proper and planned approach to TQM, and if it not most probably not going to work properly.

The team in charge or Head of the institutions of TQM can't formulate its own plan. It needs support and has to be properly guided through the various stages and activities which lead to the creation of a TQM culture.
A critical path out ling the approach, the educational institutions can take is developed is First. During the next phase, the TQM personal as a teacher work closely with the head of the institutions need to assess the progress made.

The following points have to clarify:

1. Choosing the applicable indicators for cost of quality of education,
2. Choosing proper targets to evaluate progress made on TQM,
3. Seeing that all TQM objective are measurable and in turn with the objective of Engineering colleges.
4. Deciding the structure and commitment of action plan within the boundaries of teachers and the institutional Head. Etc.

There is also danger of this stage that the institutional Head as in charge of TQM programme may delegate their responsibilities to other lower in level to him. Being commitment to programme implementation is very important. If there is a failure to support the words with proper and committed actions, the other also will not be motivated to commit himself to the programme.

If the Head of the educational institutions feels that it does not have the time or manpower to devote to the TQM programme towards TQL development , at this stage , it is similar to saying, " TQM is not my Responsibilities ". However, if the Head of the institutions is really committed, then it should demonstrate

this commitment by doing what it is telling others to do. The following, characteristics are for Head of the Engineering Colleges as Leadership Quality. A leader is not born. He has to acquire skills to be leader. No single skill will keep a man as leader in all circumstances and over all kinds of people. The leader role in educational institutions is that determined not by absolute traits and capacities, but by the demand of the situation at hand.

From the following model:

M_1: Teachers are both unable and unwilling to take responsibility to do something. They are neither competent nor confident.
M_2 : Teachers are unable but willing to do the necessary job tasks. They are motivated but currently lack the appropriate skills.
M_3 : Teachers are able but unwilling to do what the leader wants.

M_4 : Teachers are both able and willing to do what is asked of them

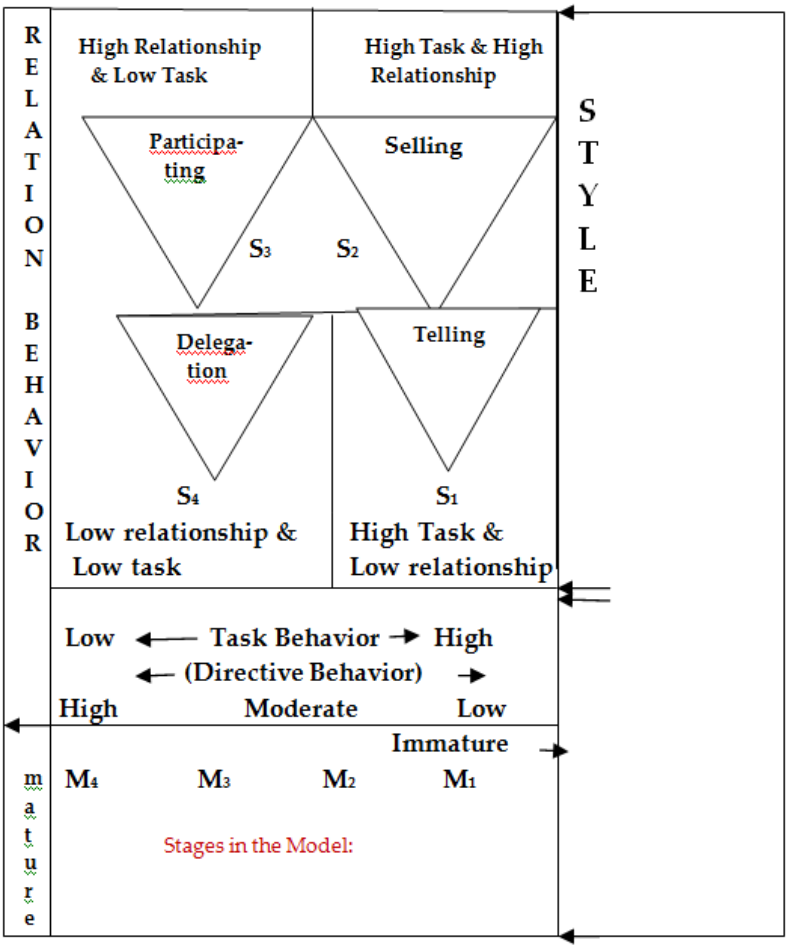


Fig 4(b) Situation Leadership Effective Styles:

In this model, four specific leadership styles are suggested:

1. Telling:

High task and low relationship. *Here the Head of the educational institutions defines the roles and tells people what, how, and when and where to do various tasks. It emphasizes directive behavior.*

2. Selling (High task – high relationship):

The Head of the Engineering Colleges provides both directive behavior and supportive behavior.

3. Participating (Low task – low relationship) :

The Head of the Engineering Colleges and follower share in decision making, with the main role of the leader being facilitating and communicating.

4. Delegating (Low task – low relationship):

The Head of the Engineering Colleges provides little direction or support.

This theory has received the attention of the researchers and this model is also called as "life cycle theory".

5. Result and Discussion:

5.1. Organization culture:

OC, which is most important for promoting Total Quality Leadership as well as Total Quality Management. Because it is consisting by teachers feel free to contribute ideas and their involvement in problem solving and decision making. The formation of culture will depend upon a whole host of factors including history, organization structure, technology and environment. The four cultures he discusses are 'Power', 'Role' 'Task' and 'People'. The power culture reflects the concentration of power of a family owned business which can be either being large or small. The role culture has been typified as a Greek temple and focuses on bureaucracy. The task culture is prevalent in organization which is involved in research and development activities. The person culture is applicable to the consensus model of management where the individuals within the organization determine collectively the path which the organization takes.

Quality Assurance that "all those planned and systematic actions necessary to provide adequate confidence that a product, process or service will satisfy given quality requirements". Due to the rapid growth of globalization process, this aspect assumes greater importance for India to the educational institutions, because have to face a cut throat completion in the globalization impact

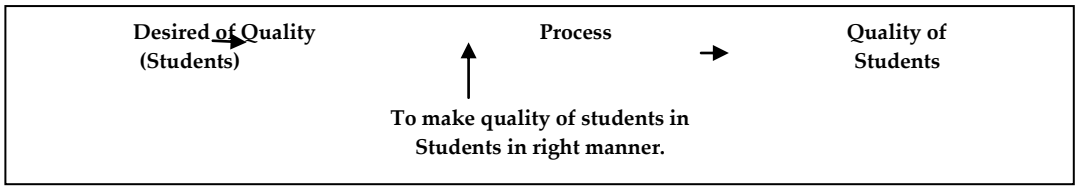


Fig: 5(a) Basic Aspects of Quality Assurance (By TQL)

The basic structure of quality assurance by TQL, which are including various components of each sub-system and their inter- relationship and it provides:

1. Trade off between quality and quantity of students,
2. Interaction between quality and cost of the students.
3. Improve student's satisfaction etc.

From the above, Quality Assurance is an effective system for integrating the programme of quality education development, quality of education maintenance and quality of education improvement made by various groups in an organization so as to enable development or maintenance at most economical and quality level which allow for full satisfaction. As a result, the following module is playing significant aspects towards TQL:

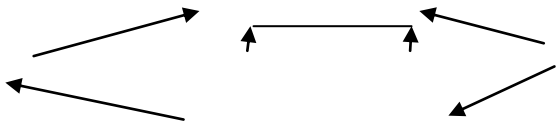


Fig: 5(b) Student Delight

5.2. Pareto Analysis:

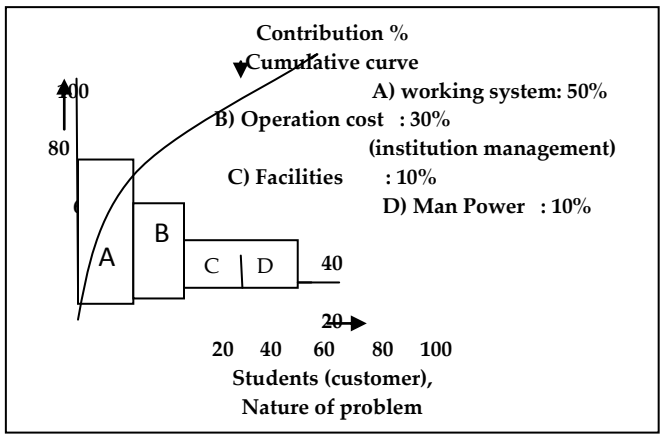
Pareto was an Italian economist who discovered a universal relationship between value and quantity and he used this technique for assessing uneven distribution of wealth. Allocation procedure of Pareto analysis is complex for the educational institutions. Pareto analysis helps in the identification of vital few from the trivial many at a glance, when projected using column graph named after Pareto.

Pareto diagram is a column graph, drawn after data collection, for the purpose of:

5.2.1. Differentiation between the vital factors that contribute most to the unsatisfactory situation from other trivial ones. Normally this technique is being used for fixing the priorities for selection of the problem to be taken up serially, listed after brainstorming and data collection.

5.2.2. Also for tackling the major factors responsible for any problem.
In some cases the problems listed out could be group depending upon their nature and their recurrence can be projected in terms of percentages as shown in the following example:

A Quality Circle listed out their problems relating to their work area and grouped them under the following headings. They also collected data regarding recurrence over a period of time:



The Pareto principle was invented by Dr. Ishikawa s and is used to divide the vital few from the important many. It is particularly useful where it is necessary to decide on priories, for example, Critical Quality Costs.

Some of the concussions drawn based on the Pareto principle are:
 # 80% of quality costs come from 20% of the problems.
 # 80% of the contribution goes to 20% of the customers (students).
 # 80% of the performance of the people (teachers fraternity) comes from 20% of the their activities,
 # 80% of the talking is done by 20% of the people (teacher's fraternity),
***#** 85% of the problems are caused by management (Head of the institutions) and 15% are caused by subordinates* (Sr/Jr Teachers).

The Pareto principle is used to catch the big fish and to leave the little fish in the pond for attention at some future time.

6. Type of Data:

Some Important QC Tools:

6.1. DATA Collection:

What is data: Data is nothing but collection of facts and figures which gives a clear picture of work situation. It would form a sound basis for decision making and corrective actions. Following illustration will make it clear. Whenever a patient goes to a Doctor Complaining about high fever, he would be asked to notice down the temperature at regular intervals, say once in six hours. Based on the trend of temperature recordings, doctor would diagnose the disease and prescribe the medicine. Such temperature recordings at regular intervals are known as data. Based on the data alone, doctor prescribes the medicine. The same is true for organizational problems also. Generally, data is divided by two groups:

6.1.1. Measurable date: One is measurable data like length, weight, time, etc
6.1.2. Countable data: Which cannot measure but can count?

7. Conclusion:

When speaking of "Quality" in educational institutions, one tends to think first in terms of product of Quality students. Nothing could be further from the truth. In TQC the first and foremost concern is with the quality of teachers. Instilling quality into teachers has always been fundamental to TQC. Therefore, allocation procedure of KAIZEN concept is critical, but this management approaches can change the cultural of educational institutions. For example, Thichi Ohio, former Toyota Motor vice president, once gave the following example of finding the real cause of a machine stoppage :

Question 1: Why did the machine stop?
Answer 1: Because the fuse blew due to an overload?
Question2: Why was there an overload?
Answer 2: Because the bearing lubrication was inadequate.
Question 3: Why was the lubrication was inadequate?
Answer 3: Because the lubrication pump was not functioning right.
Question 4: Why wasn't the lubricating pump was not functioning right?
Answer 4: Because the pump axle was worn out.
Question 5: why was it worn out?
Answer 5: Because sludge got in.

By repeating "Why" five times, it was possible to identify the real cause and hence the real solution: attaching a strainer to the lubricating pump. If the workers had not gone through such repetitive questions, they might have settled with an intermediate counter measure, such as replacing the fuse. This problem is exacerbated by the fact that people who make the products and those who sell them are separate people. When the autoworker fails to tighten adequately, the consequences of his work may not be immediately apparent on the assembled car. What does it matter whether the bolt is tight enough or not / However, if the person working next on the car is thought of as a customer, the problem is personalized, and it does make a difference whether the bolt is tight enough or not.

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