

Best Practices in Engineering College by TQC with Special Reference to North East India

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Abstract: *Quality is never an accident, but result of intelligent effort”– John Young. For the rapid growth of population and industries, Total Quality Circle (TQC) has gained importance and being introduce and experimental with in Engineering College in India. In educational institutions, allocation procedure of TQC is complex, as it human beings as input to and output from the system. Students are input and customer too. Quality circle as a 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, analyse and resolve work related problems, not only improve quality of education and total performance of the engineering college Philosophy to contribute to the improvement and development of engineering institutions are consisting by following special references to the N E India.*

- 1) Teachers develop their ability, wisdom and creativity by using their brain.
- 2) Teachers educate themselves by sharing experienced.
- 3) Teachers do not work in isolation but act as a them.
- 4) Display Human capabilities fully.
- 5) It promotes job involvement and participation etc.

Therefore, Total Quality Circles in tact represent the form of “self control”, suggested for higher educational institutions.

Keywords: Ability, job control TQC, Job involvement, wisdom.

I. INTRODUCTION

“The improvement of quality in products and the improvement of quality in service these are national priorities as never before” – George Bush. 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 educational institution, 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 Themselves. 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 is creating problems, particularly by Jr. Teacher and Sr. Teacher of the higher educational institutions, because they feel –

- 2.1. Quality circles may show up their deficiencies.
- 2.2. QC dilutes their authority and importance.
- 2.3. 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 higher educational institutions by explaining 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 exposure to the concept and achievements of Quality Circles would also help them ot appreciate the need of Quality Circles and in this way to help them develop a positive attitude.

II. LITERATURE REVIEW

“Quality means never having to say I am sorry”

In India, less engineering institutions are introducing of Quality Circle. The opened up and liberalized higher education policy in India is competitive. System approach for engineering institutions 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. Genichi Taguchi is famous for his methods for improving Contd...P/2 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.

The Japanese quality Guru Taguchi beautifully describe about the definition of quality – “bad quality” as “loss of society”. According to him, a supplier who consistently provides bad quality goods and services is “wrong” than a thief. Here the seven points for development of Taguchi method by Quality circle process –

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- 3.1. Productive Society.
- 3.2. Competitive Economy, continuous quality improvement.
- 3.3. Continuous reduction for cost of Quality Inspection for target value.
- 3.4. Customer's loss due to a products performance variation from target value.
- 3.5. Final Quality and cost of a product extent by design and manufacturer.
- 3.6. A product or process performance variation can be reduced by exploiting.
- 3.7. Statistically planned experiments can be identifying setting.

From the above points, the following module may help for problem solving to Quality circle introducing in engineering college in India.

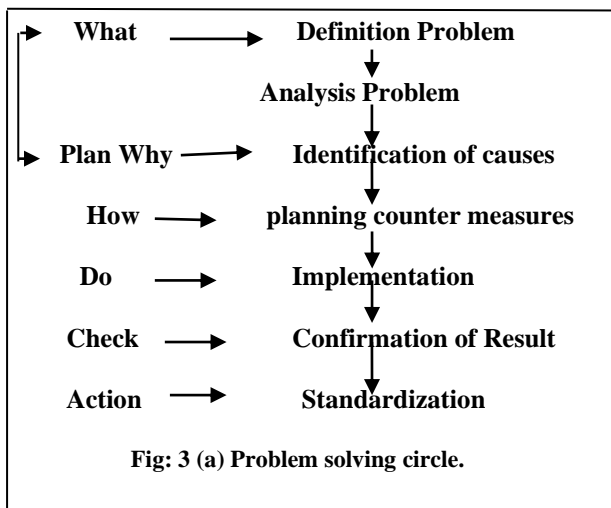


Fig: 3 (a) Problem solving circle.

III. METHODOLOGY

The concept of Quality Assurance by TQC in Engineering College in North East India, as long term policy. For the effectiveness, QA usually require a continuing evaluation factors towards design to providing confidence. For the competitive environment, QA has gained wide importance in industry and is generally being introduced and experimental in the Engineering College in N E 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, resource, output and feedback. Educational institution system is complex, as it involves human being as input and output from the system. Students are input and customer too.

4.1. Implementation Process of Total

Quality Circle Policy:

There are five main steps used to implement the policy or quality programme towards Quality assurance in Engineering College in North East India.

4.1.1. Understanding means:

4.1.1.1. How does our quality system compare to the standards ISO 9000 series? In case, it matches then we are obtaining all the benefits of standards and the quality programme. The quality programme is to be implemented rather than impressing students.

4.1.1.2. Though, there is no national standard to advise regarding the best practice, but attempt to use statistics effectively.

4.1.1.3. Asses the attitude and awareness of teachers about the quality programme.

4.1.2. Top Management Commitment: 4.1.2.1.

Top commitment means a positive direction of senior teacher to implement quality programmer and there is no hidden intention to waste time and effort.

4.1.2.2. To implement policy, try to explore the key areas – parents cum teachers, system and technology.

4.1.2.3. It means educational/training institutions wide awareness can be introduced top-to-bottom to implement policy, try to explore the key areas- people, system and technology. Director /Principal may commit to introduce Total Quality circle (TQC) or Taguchi method but details should not be worked out at this stage.

4.1.2.4. Good way to conveying the message ... What is quality and why is it important?

4.1.2.5. What is the quality improvements programme and how each can participate?

4.1.3. Planning

Planning means what you do, before you do anything plan it properly so that you do mix up the various activities when you do it, This covers (i) Education, and (ii) Training.

4.1.4. **Implementation:** It means an accepted fact that the quality improvement programme is a continuous process and has got to be built into the system. Quantify the benefits.

4.1.5. **Review:** It means, to review the educational/teacher training institutions are emphasis on quality performances on regular basis. Review will improve the understanding to improve further. Etc.

From the above, Quality Management, towards development of effective system of quality assurance Contd..P/3 towards TQC development which is depending on Engineering College in N E India on the Structure of an organization is no guarantee to success, because it simply represents pictorial or graphical view of interlinking of various head of departments, who are responsible for quality. As such the organization structure for quality management in educational institutions may be different; however, the main objective is to implemented International Standard ISO 9000 series, so as to: Clarify the distinctions and inter-relationship among the principal quality concepts, and Provide guideline for the selection and use of a standard that can control the quality internally and externally to assure the quality.

IV. RESULT & DISCUSSION

What is in a name?

“A rose will smell as sweet with any other name”, so said Shakespeare. While this may be true in many cases, one should think twice before applying to maxim to” Quality Circles” It is but natural for human beings to be individualistic. Why can't we bring in some glamour into the dry working of Quality circles by giving them fancy name? Should we not name the groups such their objectives are explicitly brought out? None can beat the American in their creativity for names. While perusing some past issues of a journal on Quality Circles, published in the USA, the following name were discovered.



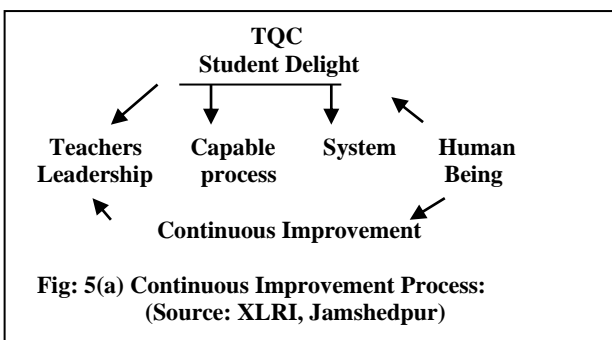
- 5.1. Human Resources circle.
- 5.2. The Quality seekers.
- 5.3. Action Circles.
- 5.4. The Power-minded circle.
- 5.5. Magic Circles
- 5.6. Employee Circles, etc.

We expect more and more from a teacher. We think that teacher that a teacher should always be an ideal person. Therefore, the training objectives are classified by Behavioral Objectives and Learning Objectives. Quality Assurance means, “A system of activities whose purpose is to provide assurance to teacher by teacher education and to show evidence that the overall Quality Control is in fact being effective”. The juran trilogy recommends that quality be managed by a structural process of planning, implementation or control and improvement. Quality planning identifies the quality features to be provided and plans for delivering them without deficiencies.

Training programmes of all kinds are organized by various teachers’ education in the hope of improving the knowledge and the attitudes of their faculty. However, if a programme is to be successful great care must be taken in its design in the choice of training methods which definition of its objectives and the choice of faculty. A trainer that commitment to provide the right type of learning environment / atmosphere while imparting knowledge, skills and attitude will certainly inspire and motivate trainees.

The ultimate success of a training programme depends upon its design and the most important prerequisite is to be clear on the need and the objectives of the programme. The design process is essentially a team process and a small team comprising of trainers and human process facilitators should be deployed to carry out this task.

Good communication is a great motivation. It help to avoid misunderstandings. Good communication is two process and therefore, Engineering College in N E India need to make noise about TQM programme by the help training programme, because management process is very critical to success of TQM. In terms of training, may head of the Engineering Colleges are think their people can’t learn. But the role of training towards development of Quality Circle is probably the most critical aspect of any TQM drive. However, training as a method of change can be successful if managed properly. Some HOD of the Engineering Colleges are thinking that by selecting the best teachers, the emphasis on training can be reduced. This may be true for today, but what about tomorrow. The following diagram may help for TQC improvement:



V. TYPE OF DATA

For the effective teacher education for the teachers of engineering colleges in N E India, the following example would be succeed towards TQC implementation:

For example, Former Toyota Motors, Vice – President once gave the example of fault finding the real cause of a machine:

Question No.1. Why did the machine stop?

Answer: Because the fuse blew due to an overload.

Question No.2. Why was there an overload?

Answer: Because the bearing lubricant was in adequate.

Question No. 3. Why the lubrication was inadequate?

Answer: Because lubrication pump was not functioning right? Contd..P/4

Question No.4. Why lubricating pump was not functioning right?

Answer: Because the pump axle was worn out.

Question No 5. Why was not worn out?

Answer: Because sludge got in.

By repeating five times, it was possible to identify the real cause. If the workers had not gone through such repetitive questions , they might have settled with on inter mediate counter such as replacing the fuse.

VI. CONCLUSION

“Quality Circles can seriously damage your frustration”

It was learnt that over 60 countries are now operating Quality circles including India also and areas of i.e. Administration, Engineering, Academic institution (Higher Educational Institution), Banks, Industries etc. which the participate concept has been adapted. Those who believed that Quality circle philosophy would not work in higher 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 the higher educational institutions. The over and above discussion, the problem solving phase is consist by following for higher education and institutions.

Phase – I: Initial phase that the circle will have been trained in simple technique which will enable its members to identify, analyze and solve some of the more pressing problems in their own area-

- 7.1. Wastage of materials.
- 7.2. Productivity.
- 7.3. House Keeping problems.
- 7.4 Environmental problem.
- 7.5. Delays.
- 7.6. Safety ,
- 7.7. Inadequate job instructions.
- 7.8. Quality, etc.

Phase – II : Monitoring and problem solving after a short time, when several of the simpler problems have been resolved and many others have just “disappeared” as a result of other improvements in the work environment, the circle will begin to develop a “monitoring” mentality, therefore, simple control techniques are required.



Phase – III: Innovation – self – improvement and problem solving, (1) There is almost a natural progression to the self – improvement phase from phase. (2) As the circle begins to nature, and most of the techniques taught have been well practiced and understood, the confidence of the group will have grown considerably.

Therefore, the members will also have gained a wider acceptance by their colleagues in their own and other educational departments and also by Head of the institutions. As a result, they will be treated with greater respect.

Phase – IV : Self-control at the time of writing, it is unlikely that any circles in Western Europe educational institutions have reached this stage of development whether it is reached as it is as much dependent on Head of the department or head of the educational institutions outside the circle as it is on the circle members themselves. Therefore, need of TQC in Engineering College in N E India for the better competitive environment.

REFERENCES

1. Course materials of Management Development Programme, XLRI, Jamshedpur, January 2nd to 6th/1995.
2. Course materials of Executive Development Programme in IIM Bangalore, July 17th to 21st July/1995.
3. Course Materials of Faculty Development Programme in IIE, Guwahati, from 22nd January to 2nd February 2001, India.
4. Course material of National council for Labour Management, Chennai. 1996, India.
5. Proceeding of NAAC sponsored National Seminar in J B College, Jorhat, Assam, India, on dated from November 4th to 5th/2002.
6. Paper by Dr. Kalita Porag, NAAC sponsored National Seminar in J B College, Jorhat, Assam, and India, on dated from November 4th to 5th/2002.. pages No. from 20 to 24.
7. Paper by Dr. Kalita Porag, ICSSR sponsored International Seminar in Bodoland University, was held 4th 6th, oct/2013.
8. Proceeding of 34th Indian Social Science Congress as International Conference at Guwahati University was held from 27th Dec to 31st Dec/2010.
9. Paper by Dr. Kalita Porag, International Seminar in Gossaigaon College, Kokarjar, Assam, India, dated 4th to 6th Feb/2015 and sponsored by ICSSR, New Delhi.
10. Department of Education, Govt. of Assam sponsored Int'l conference of Council of Teachers Education (CTE), H.Q. Bhopal, dated 14th to 16, Dec/2002, at Guwahati University, paper by Dr. Kalita Porag.
11. Ministry of Human Resource Development sponsored Int'l conference of CTE, was held at Bhopal dated 3rd to 5 Nov/2003, paper by Dr. Kalita Porag.
12. Dibrugarh University Int'l Conference,(CTE) Department of Education, From 7th Feb. to 9th Feb/2013, paper by Dr. Kalita Porag.
13. Int'l Conference under CTE at Guwahati, from 7th to 8th Non/2008, paper by Dr. Kalita Porag. Contd...P/5
14. Nat'l Seminar in Tezpur University with collaboration by Faculty of Commerce, Delhi University, on dated 17th to 18 Nov/2012., paper by Dr. Kalita Porag.
15. UGC sponsored National Seminar in North Lakhimpur Girls College, N.L., Assam; India dated 12th to 13th, Sep/2008, paper by Dr. Kalita Porag.
16. UGC sponsored National Seminar in D.C.B. Girls College, Jorhat, Assam, dated 19th to 20th, Dec/2009, paper by Dr. Kalita Porag.
17. UGC sponsored National seminar in Nalbari Commerce College, Nalbari, Assam, dated 11th to 12th June/2010, paper by Dr. Kalita Porag.
18. UGC sponsored National Seminar in Now gong College, Now gong, Assam, dated 25th to 26 July/2012, paper by Dr. Kalita Porag.1
19. Paper Published in Book, ISBN No. 978-81- 7139-617-7. 15.15.6.
20. Paper published ISBN No. 0-7680-0539-6).
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