

# An Ingenious CRT for Endorsing Student Quality Circles

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## Abstract

We are 'teaching what we are supposed to teach but are the students really learning what they are supposed to learn' is a major challenge that any Campus Recruitment Team (CRT) has to man up while administering a group of under graduates and post graduate students. It is empirically strenuous to train manage, engage and assess each and every student but, it is the liability of placement team to figure out such smart talents and guide all the students in a right way. It is a long term process in which the mission of educational institutions to enable the whole activity to focus towards attaining the targets. These are to be fixed by a bench of Principal, Management which is pioneered by TPO & Coordinators as a team. This kind of team work and collective effort can be endorsed in campus recruitment and training programs to ensure quality furtherance and maximum campus selections. This paper envisages the secret of success factor in various deemed universities that established Student Quality Circles (SQC) as the best empirical remedy for better usage of human resource, achievement of educational goals and in bringing remarkable results on a long run through consortiums.

**Key words:** CRT sessions, quality circles, success factor, consortium, QCFI, ISI

## 1. ORIGIN

### 1.a. Foreword

Quality circles mainly rely on the principle of 'Act-Plan-Do-Check' policy which is generally endorsed in industrial and manufacturing sectors. Generally a group of 5 to 8 members at maximum who does similar tasks voluntarily meet on regular basis to figure out, analyze and overcome their issues [1.P142-148].

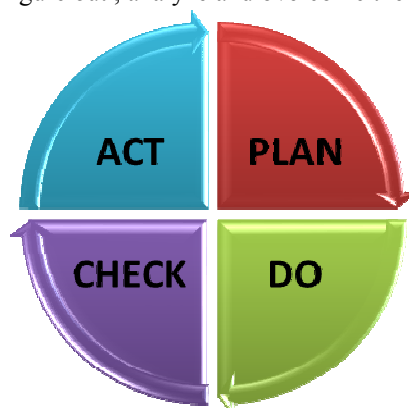


Fig 1 a : Act Plan Do Check activity

### 1.b. Aim of SQC :

Basically QC's are tools to advance the individual inheritant skills, merits, knowledge in identifying the problem and analyzing the remedial measures. Selecting the right choice to solve the problem by brain storming functions through QC meetings. It also ensures the individual ability in decision making, however it flourishes under the able guidance and involvement of the Management in particular. QC ideology was pioneered by *Kaoru Ishikawa* in Japan in early 1960s [2. P35-79]. This method in Japan was coordinated by the *Japanese Union of Scientists and Engineers (Crocker-IUSE), (JUSE)* and were responsible for establishing this ideology at *Nippon Wireless and Telegraph Firm* and in decent time it spread to more than 45 other firms in the first year itself [3][20]. A research work conducted during 1978 claimed that there were more than one million Quality Circles involving as many as 10 million Japanese workers. Progressively it spread to 37 nations by end of 1994 under the leadership of eminent experts like *Dr.Juran* and *Dr.Edward Deming* of quality statistics [4]. QC was pioneered in India at *BHEL, Ramachandrapuram Hyderabad* in the year 1981 headed by *Mr. Madhav Rao and Mr. S.R.Udpa, GM operations and management team, Mr. K.L. Puri, Chairman and Managing Director of BHEL* along with the guidance of *Prof. V. Narayana* of *Indian Statistical Institute (ISI) of Hyderabad* and *Dr. A.N.Saxena* Director General of *National Productivity Council*, which was further pioneered in India through Educational sectors, Manufacturing sectors in India, by *QCFI (Quality Circle Forum of India)* [5][9][21]. Today nearly 87% of organizations around the world are members of QC's and about 3 million QC's are in operation throughout the world [6 P 15-35].

### 1. c. 4m's of Kaoru Ishiwaka

As per the brain storming sessions of *Ishiwaka*, cause and effect are prime factors that to figured out the potential performance of a problem [7]. Causes are due to the 4m's 'MAN-METHOD-MATERIAL-MACHINE' [8] in which man is the major factor for the transform of quality.

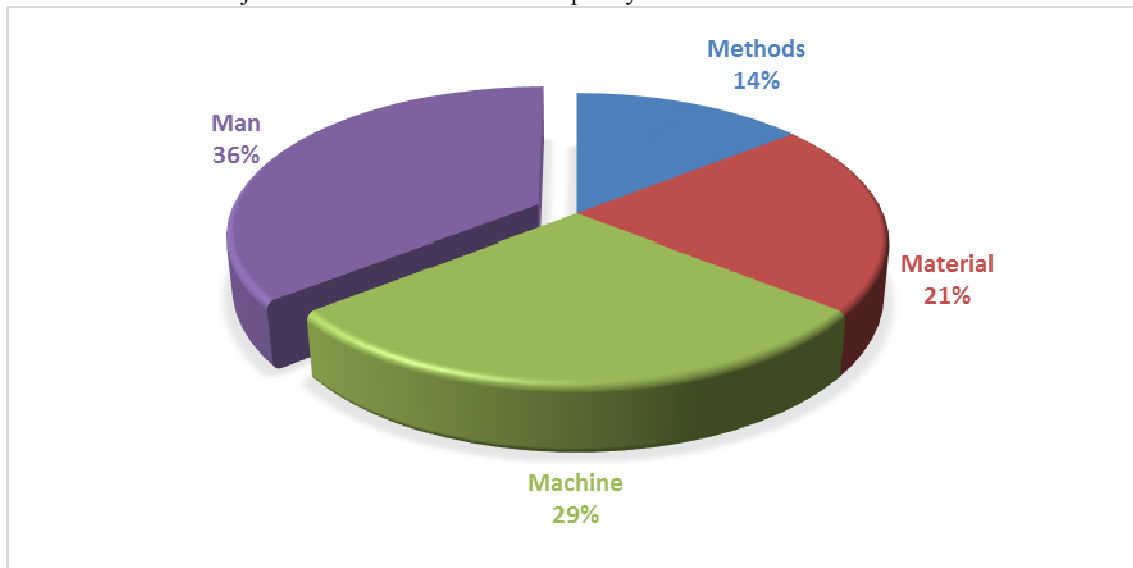


Fig 1.b Man-Method-Material-Machine Pie Chart

As inferred from the above pie chart study of human relationship and communication among individuals in a team is the major factor to improve the overall quality. It is the basic need of the CRT team to develop a frame work to inculcate the inner line leadership, liability and adroitness development of the students [10]. The state of mind needed to become involved in decision making activities and establishing a frame work should have a line of organized chart which helps in reducing the conflicts among the SQC [22. P106-133].

### 1.d. Student Philosophy

Student philosophy has to be taken into cogitation while preparing the framework as a pride and interest of their work clinging on the expertise anatomy and control of the decisions that has an effect on them. Capabilities such as interview skills, self-confidence, GD tips and techniques, Aptitude Skills, CV making, stage fear can be self-learned in a **360 degree verticals** in a SQC [11. P98-124]. A dedicated TPO team should always monitor and choose the proper volunteers as circle members based on their enthusiasm and zeal for putting forward their efforts in terms of development. Circle leader (generally CRT coordinator) should take initiation of sharing liability, knowledge, material required, expert advice to the concerned circle member as an input to the their respective proactive circle [12].

## 1.1 OBJECTIVE AND THE NUT SHELL

### 1.1.a. Objective

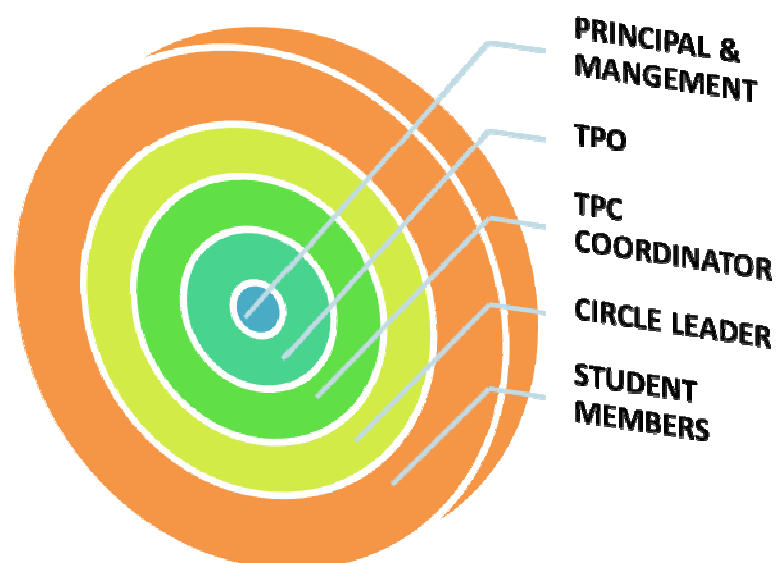
As per the study of *IMEL (1982)*, any QC group should maintain a Steering Committee and Management Representatives who take the liability of implementing and managing the QC functions [13. [11. P242-268]]. Only then it is possible to achieve the QC goal. An appropriate provision should be made to impart agility in the technical education from CRT training programs which are to be considered as a long range process of novice employability skills where the institute should focus in attaining the long-term results. The core objective of CRT SQC's should be on:-

- (A) Enabling the novice to change his attitude from 'I Don't Care' to 'I Do Care' [15].
- (B) Helping the novice to achieve *self-employable adroitness* s by bringing out his/er hidden potentials [16[11. P132-168]].
- (C) *Inculcating team spirit* within the students and improving the leadership qualities which lead to collective achievement [17].



### 1.1.b. Nut Shell

SQC's have an approximate structure for effective and efficient performance. These structures are not static which may vary clinging upon the novice environment. Inspite of these differences *Chase (1983), Dessler (1984) and Arora (2008)* have proposed that every quality circle must flow a well-defined structure<sup>[18][19]</sup>.



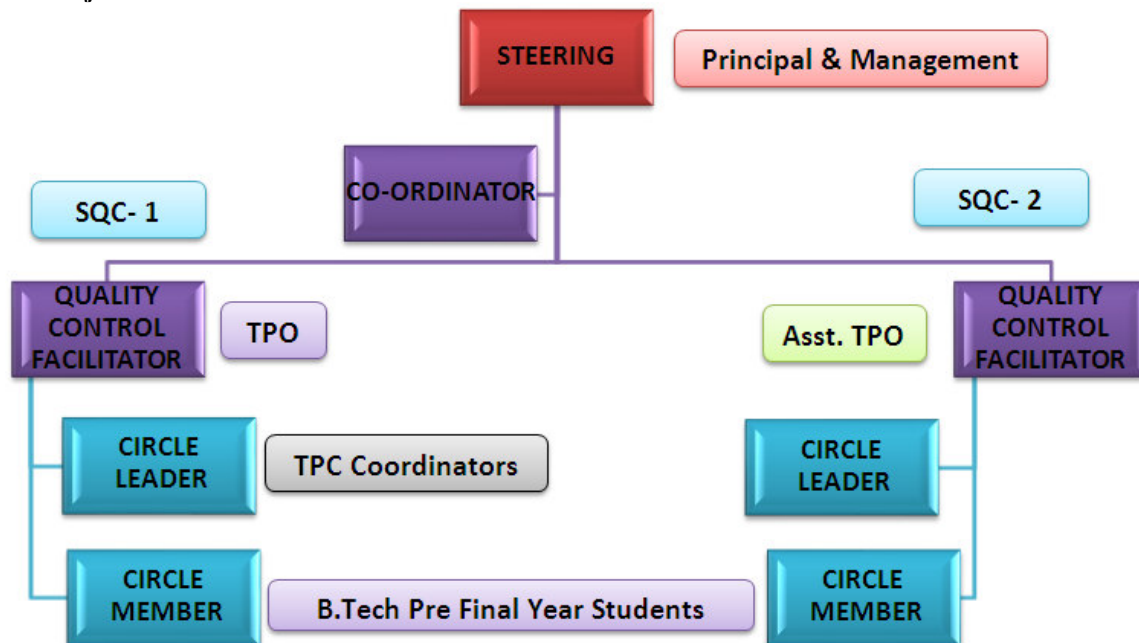
In the core of the circle Principal and Management takes the crucial decisions on how and where the level of novice is upto that date. They form a team of faculty members as TPC coordinators of the respective branches who works as facilitators to training and placement department. Clinging upon the quality and the count of students the principal and management may vary the team. Depending upon the supervisory suggestions, quality of the students, ideas requirements of the QC's. TPO should frame the structure and schedule of the meetings with the circle leaders. The circle leader, mostly a novice among the class are truly the life blood of a SQC who has to take the initiative in driving his/er respective SQC as shown in the above figure.

#### 1.1.1 CASE STUDY OF STUDENT QC'S

We have employed a pilot project in our campus under the supervision of Training and Placement department , Principal and Management. SQC was formed with two student teams which was pioneered it on 15<sup>th</sup> December 2014 under the guidelines of *Mr J.V.Sita Rama Raju*, Senior HOD, QC in *Sanghi polyesters, Hyderabad, India*.

The two teams were continuously monitored and guided by the authors in providing them the right inputs required for their CRT preparation right from their fifth semester (pre-final year of engineering). SQC meetings were planned on bi-monthly basis for evaluation. From the day one members of SQC's were assembling at TPO chamber on weekly basis and were discussing about their respective circles. Circle leaders of SQC were having sole liability in providing their needs and maintain the record of internal sessions and topics discussed by the members in the presence of TPC coordinators.

### 1.1.1.a. Project Initiation



Pilot project was pioneered at SVPEC Engineering Campus on 15<sup>th</sup> Dec 2014 with two student quality circle teams consisting of 2-Computer Science and Engineering, 2- Electronics and Communication Engineering and 4- Civil Engineering students under team 1 headed by TPO *Mr. K.T.Krishna Kumar* as quality control facilitator. 2- Computer Science and Engineering, 2- Electronics and Communication Engineering and 4-Mechanical Engineering students under team 2 headed by Asst.TPO *Mr.J.V.Ravi Varma* as quality control facilitator for the benefit of 2016 passing out engineers from the campus. A Mock was conducted to the members of 2-SQC's at the beginning and the individual grades in verbal, aptitude, technical languages, Communication Skills and body language were taken on a **five point grading scale** as initial level. They were briefed about the advantages and outcome of SQC along with all the support from the side of the SQC bench expecting to have regular bi quarterly SQC meetings.

### 1.1.1.b. SQC meetings

SQC meet 1 was conducted on 16<sup>th</sup> February 2015 in which the facilitators had individual meetings with the circle members regarding interview related verbal and aptitude. It was found that there is an average furtherance of 1 to 2 points on individual members. The grading and pitfalls were shared among the circle leaders, individual members concentrated on the strengths, weakness, opportunities and threats. SQC meet 2 was conducted on 6<sup>th</sup> April 2015 in connection with the novice adroitness set on technical languages like C and Java. Reviews of grading scale were shared with the SQC bench and quality members for their guidance. As planned earlier SQC meet 3 was conducted on 23<sup>rd</sup> June 2015, a mock test was conducted based on aptitude, verbal and technical languages where the result was found to be high. SQC's members have yielded a great zeal fro furtherance when compared to the initial test taken on 15<sup>th</sup> Dec 2014.the SQC bench has organized 4 to 5 workshops and soft skills sessions to the circle members in connection with communication skills and body language. A mock interview was organized on 12<sup>th</sup> Aug 2015 as a part of SQC meet 4 in which it was observed that 80% of the circle members have gained to a grade of 4 to 5

### 1.1.1.c. Result Evaluation

Gennexe Electronics campus drive was scheduled a week after SQC meet 4 in which the HR officials also reported that the students of Civil and Mechanical gave good competition to the Computer Science and Engineering students in terms of technical performance, coding skills in different respective. Inspite of being a technically a software based interview 35 Civil, 46 Mechanical Engineering students were shortlisted. An effective and efficient performance was being observed inspite of lack of departmental uniformity, positive technical development, novice self-satisfaction, self-direction by the circle leaders.

## 1.1.2 OUR OBSERVATION

### 1.1.2.a. Success factor

The secret of success factors in various deemed universities such as LPU,SRM,VIT has started student consortiums in tapping the right resources from the associated colleges and making best benefit out of them. Close integration between end use of the knowledge and imparted adroitness agility in technical education and training can be successfully be implemented easily through quality circles From the above outcome of 8 months SQC pilot project which was undertaken by the authors in which it was observed an inter dependent bench helping the members to tackle the problems, which are beyond the capacity of the single window administration by pooling the expertise advice and resources was successful. It was found that the quality has immensely increased from 1 to 4 in an average on *five point grading scale*. Good cooperation between the bench and members, great attitude towards improving the SQC continuous monitored supervisory advice has yielded such a good result.

### 1.1.2.b. Observations:

- At the beginning the project it yielded a less result and has shown a better result on orientation and participation.
- We found that the SQC developed creativity, curiosity, and novice willingness towards the participation and man to man interaction to achieve the goals.
- It also improved effective communication collaborating with the teams, mutual development, social and civil responsibility of the student.
- It leads to betterment of students in terms of Team spirit, motivation and adaptability of the members in SQC Teams.

Faculty and students who were habituated to regular practice of Campus recruitment and training found it to be bit strenuous to endorse but with unhindered support and constant guidance, during practice by the supervisory bench made it simpler and easier.

### Conclusion:

*"It is better for 100 people to take one step than for 1 person to take a hundred steps"*. In todays 21<sup>st</sup> Century SQC is a strong tool for personality development of students, to help them become good citizens, confident, competent and humane.CRT imparts hands on rigorous academic training that has been relentlessly perused while dealing with technical under graduate and post graduate students where, SQC supports them in belongingness towards their portlier institutions, recognition of the importance in developing the human resource and improving capabilities. Positive attitude towards improving the SQC continuous monitored supervisory advice, good cooperation between the bench and members can only yield expected result by endorsing SQC's in educational institutions. Educational sectors which has vast store of untapped talent, learning abilities and ingenious ideas do not need large investment of time, money and can endorse it with it's own self resources by right usage of professors and enthusiast team of students.

## FUTURE SCOPE

*Rabindranath Tagore -"Character, not brain, will count at the crucial moment."* SQC can be further dispread ed and endorsed in the areas like research and development, student resource centers, technical and non - technical functions, faculty and student meets, student alumni etc. The same can be endorsed in software startups, faculty development programs for a better resource utilization and maximum unity management of result.

## References

- [1] A book on *'The quality circle and its variations'* by GE Ledford, SA Mohrman, EE Lawler - 1987 - University of Southern California.
- [2] A book on *'Guide To Quality Control'* by Kaoru Ishikawa & P.Imprenta: New York : Asian Productivity Organization. (225P / 21)
- [3] A Thesis on *'The transfer of management innovations from Japan'* by P Lillrank, Organization studies, 1995
- [4] A research work on *'An instrument for measuring the critical factors of quality'* by JV Saraph, PG Benson, RG Schroeder, Decision science
- [5] A thesis on *'Quality management practices in Indian ISO 9000 certified companies'* an empirical evaluation by B Mahadevappa, G Kotreshwar-quality management & business 2012
- [6] A book on *'Modern methods for quality control and improvement'* by HM Wadsworth, KS Stephens, AB Godfrey
- [7] Study on *'Application of Fishbone Diagram Analysis in BGA Fireball Quality Control'* by JH. WU, X SHI - Electronics Process Technology, 2010
- [8] US Patent 3,887,903on *'Interactive man-machine method and system for grading pattern pieces and for producing an apparel marker'* by Mc. Ronald-Google Patents
- [9] A study on *'Quality practices of Indian organizations: an empirical analysis'* by JG Motwani, E Mahmoud,

G Rice

- [10] An European journal of purchasing & supply on Isevier '*Fit for purpose' contractual relations: determining a theoretical framework for construction projects* by A Cox, I Thompson
- [11] A book on '*Quality circles after the fad*' by EE Lawler 3rd, SA Mohrman.
- [12] An analytical study on '*Quality circles: After the dew time*' by EE Lawler, SA Mohrman, Organizational dynamics, Elsevier.
- [13] A book on '*Quality circles handbook*' by D Hutchins, Pitman London.
- [14] The Wageningen UR Library '*What is total quality control?*' by K Ishikawa, DJ Lu - 1985 - library.wur.nl.
- [15] An article on '*Student motivation in middle school: The role of perceived pedagogical caring.*' by KR Wentzel - Journal of educational psychology.
- [16] A book on '*Self-perceived employability: development and validation of a scale*' by A Rothwell, J Arnold - Personnel Review, 2007.
- [17] An article on '*Creating teamwork in virtual teams*' by DS Kezsbom - AACE International Transactions.
- [18] An article on '*Braneworld Kaluza–Klein corrections in a nutshell*' by S Kanno, J Soda - Physics Letters B, Elsevier.
- [19] A paper on '*Issues and Concerns in Implementing Quality Circles in Public School Management in Nigeria*' UJ Nwogu, NM ABRAHAM, Public Policy and Administration Research, 2013.
- [20] A research study on '*COPD in Japan: the Nippon COPD Epidemiology study*' by Y Fukuchi, M Nishimura, M Ichinose, M Adachi.
- [21] A thesis on '*Effectiveness of Quality Circles and its determinants in a large industrial organization in India*' by RS Dwivedi - Indian Journal of Industrial Relations-JSTOR.
- [22] A book on '*Student success in college: Creating conditions that matter*' by GD Kuh, J Kinzie, JH Schuh, EJ Whitt – 2011.