

POLYTECHNICS IN THE PURSUIT OF QUALITY

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1.0 INTRODUCTION

Polytechnics are involved in developing precious human resource in the form of technician manpower required for industries. Technicians in industry play a crucial role as middle level management personnel in the overall development of the industry. Radical changes in industrial world resulting from fast changing technologies on one side, problems like low productivity, lack of work culture, high costs of production on the other side has put the present day industries in a challenging situation. Industrial environment, came under the evil influence of deteriorating value systems emerging from the falling socio-economic standards of the nation.

The Indian Industries are presently facing several challenges both external and internal. With the removal of protectionism, monopoly and liberalisation of industrial licences through new economic policy, they are facing a formidable challenge externally, while lack of commitment on the part of the management, administrative delays, indifferent attitude of work force, inadequate resources, lack of understanding of persons at various levels is causing the challenge internally. Under these two challenges, the Indian Industry is striving hard for its survival. Under the changing scenario there is an immediate need for the industry to evolve strategies that can put them in good stead. Time has come for Indian Industries to expand their base and market. In the process of survival, they have to explore the possibilities of entering Global market. Globalisation will not just come handy,

unless additional efforts are put on. The Global market is now looking forward for quality products. Indian Industries, need, therefore to bestow utmost attention in tackling chronic maladies like inferior quality, low productivity, low value production etc. Quality cannot be achieved overnight unless lot of efforts are made through efficient and effective Human Resource Management Techniques.

Workforce in industries need to be nurtured into a different culture in which quality is taken as the life's mission. Polytechnics have thus a responsibility in inculcating the quality consciousness among its products (Technicians), as the future of industry lies in their hands. Thus they have a herculean task before them in developing the Polytechnics as model quality houses. In accomplishing this, lies yet another challenge for all those concerned in Polytechnic system.

2.0 ROLE OF TECHNICIANS IN INDUSTRY

The status of technicians (Diploma holders/passouts from Polytechnics) in Industries between the professional engineers / technologists and the workers. They constitute middle ranks of technical manpowers. They work more with people and material and are branded as "Nuts and Bolts men". They are involved in the contribution of their technical and operational knowledge and practical skills for the proper use of equipment and materials, thus play a vital role in the growth of the industry. In order to function effectively, they need, to quickly grasp the planning

policies of the industry under the rapid changes in socio-economic environment of the nation and to play a strategic role in translation and activating the new ideas and projects, thus provide a strong base to equip the industry to adapt the desired change. By doing this they help the industry directly in improving the quality, and productivity. To bring about these qualities in a technician, needed inputs are to be provided by Polytechnics.

3.0 ROLE OF TECHNICIAN EDUCATION SYSTEMS/POLYTECHNICS :

Technician Education/Polytechnics form a subcomponent of larger social system and have a greater role to play in generating quality technicians, who in turn will be contributing to the accelerated growth of an industry under the challenging situations. Apart from providing the theoretical knowledge and practical skills they need to concentrate more on bringing up positive work culture, attitudes, ability to adapt and accommodate in the changing circumstances among its students. It is only then, they will be in a position to play an effective role in the development. The attitudinal changes are more effectively brought in the individuals by providing suitable models.

For accomplishing the above tasks, it is equally necessary for polytechnics to initiate changes that are expected of them in order to meet the changing scenario of the industrial world. The change in culture orienting towards quality should start at the polytechnics first, as it will facilitate the students to emulate, assimilate and appreciate this needed change during their learning, so that they will be comfortable in practising or adapting them in industries later. Unless the seeds of quality culture are sown and nurtured at the learning stage at Polytechnics, their products turned out to function as key technicians in industry will not be in a position to help the healthy growth of

this culture in the industries later.

Suitable environment, therefore is required to be developed at the institutions, with an ultimate aim of introducing "Total Quality" as the key strategic approach to its growth.

To accomplish this, is not an easy task and is not possible by any individual unless and until it is taken up with a missionary zeal by all those concerned with it namely; Department of Technical Education, Principals, Faculty both technical and non-technical.

Should we not participate, nay actively participate, in the quality improvement movement, is the question every one in the system should put to himself and then plunge into action, is the requirement of the day.

4.0 TOTAL QUALITY CONCEPT AND AWARENESS :

Industries and Organisations which were involved in the process of transformation of their inputs into useful outputs in the form of either useful finished goods or services were in shambles and in chaotic conditions with disorderliness spread all round during the early part of the 20th Century.

F.W.Taylor, through his scientific management, has introduced an approach of responsible planning and organising the work, thus bringing some orderliness in the industries and organisations. Though this approach has proven advantages like high volume output and cheap production of goods and services, it has brought some problems like strikes, and production of heavy scrap or waste, which is ultimately reflected in the form of poor quality of the products and services.

With the growing awareness of quality in all the segments of progressing society, the "Total Quality Management" technique has emerged. The Total Quality

Management as is perceived to be a process of change with a focus on product expectations and user's satisfaction, and thus should be seen as a way of life, not just a management inspired and controlled system.

For Polytechnics, the quality management means production of fit technicians with consistent performance to meet the requirement of industries. To achieve this the following four elements of quality need to be geared up so that they act as models for emulation by the students.

(Refer table of Attainment of Total Quality)

1. Systems
2. Processes
3. Management
4. People

4.1 SYSTEMS :

They need to be oriented towards a system of participative involvement to build up a positive inhouse culture with continuous strategic management involvement, better inter departmental linkages, rather than a system of control. The way the things are being done in the polytechnics need to be locked into, for bringing the requisite changes of attitude at all levels with a vision to improve its performance .

4.2 PROCESSES :

Processes of implementation play a crucial role in achieving the quality. Processes need to be planned and executed harnessing all the resource of all the people. i.e. active involvement of parents, faculty (both teaching and non-teaching), students in the process of quality improvement is very much required.

4.3 MANAGEMENT :

The strategy that suits the quality achievement is the participative management through team work. Team work does not involve endless meeting and talk shops. It needs to be aimed at

building up a culture with balanced abilities, willingness to work as a cohesive group without any personal barriers with total commitment, a positive will to change values at every level. Total Quality Management should be viewed as a way of life not just a management inspired and controlled system.

4.4 PEOPLE :

People who are concerned with the polytechnic system are the educational, administrators, officials of technician education, faculty both teaching and non-teaching, students, parents, industrialists and the persons who cherish the socio-economic development. Of them, some are external to the system and yet others are internal. People outside polytechnics may watch, criticise and suggest changes based on their perception of the system in relation to the socio-economic values and expectations. They may guide, but it is totally for the people internal to the system, to work out the strategies for bringing qualitative changes within the system as desired by the society

It is therefore very essential to involve all sections of staff namely Teaching, Workshops, Offices, Attendants, Hostel and others along with students with good leadership of Principal. The desired quality changes based on the problem analysis with identified solution should come from and within the system. All the people in the system should know, Why and What changes are required along with How and When, these changes are to be brought about. It should be a continuous collective effort of all the people inside the system.

5.0 QUALITY CULTURE FACTORS INVOLVED :

To bring up a quality changes in polytechnics the focus should be on :-
- Expectations of society and industry

- Prevention of problems
- Building commitment of quality in work force
- Open decision making

This change, as per a management expert, is like eating an elephant, which at the very first sight appears to be an impossible task but can be achieved if attempted by taking small, bite sized chunks, allowing plenty of time for chewing and digestion. Thus the process of bringing this change may be slow but should be continuous. It should bring self improvement, group improvement through team building to better working practices.

Following are some factors that bring up quality in institutions :

- 1 Prevent, rather than seek to detect and rectify.
- 2 Principals, fully involved and leading from the front.
- 3 Responsibility to be felt and undertaken by everyone in the institution.
- 4 Doing the "Right first time, next time and all times".
- 5 A drive for continuous improvement.
- 6 Quality through involvement of people who are perceived as assets.

With the above in consideration the institution has to be developed through people who are properly encouraged, given responsibility for their actions and to recognise them as having a key role in building up and maintaining a work culture in the pursuit of quality.

6.0 PROCESS OF IMPLEMENTATION :

Total satisfaction, meeting all the requirement without the need for later modification should be kept up as the motto, while evolving the implementational strategies. The underlying requirement is the 'Thoroughness' and 'discipline' plus quest for continuous improvement'.

Some of the suggested activities in this direction are as follows :

1. Preparation of vision/mission statement indicating the quality, policy of the institution. The statement should be 'SMART' where

- S - Stands for Specific
- M - Stands for Measureable
- A - Stands for Attainable
- R - Stands for Relevant
- T - Stands for Trackable

The policy should be backed up by providing guidance to people about how to accomplish the vision. The people involved have to -

2. Discuss various problems and collect ideas from groups of people concerned with the resolution of the problem.
3. Analyse the problems raised, identify the prime causes, identify the possible linkage factor between them, evolve, examine and evaluate various alternatives and arrive at a situationally suitable solution.
4. 'Plan' the activities for quality improvement.
5. 'Do' the activities as planned.
6. 'Check' them for their suitability in getting the desired results.
7. 'Act' for bringing up any modifications and gear up the group to adapt the requisite changes and finally to achieve the targeted goals.
8. Adopt not the control but 'Commit' and 'Empower' strategy i.e. Empower the people to decide for themselves as to how to do the things.
9. Adopt a visible technique, keep it open instead of guarding it as secret.
10. It is an 'all fronts' process based on the team which is highly committed and motivated.

7.0 BARRIERS :

Some of the impediments in attaining quality are :

1. Management talks about quality but

2. bestow least attention to work for it
2. Lack of direction and momentum on the part of leaders
3. Lack of committment and operating without specific goals
4. Inter departmental and inter personal rivalries
5. Habit of correcting the mistakes instead of preventing them

8.0 ROLE OF PRINCIPAL IN QUALITY MANAGEMENT :

As a leader, Principal need to come out of "inertia syndrome" and provide effective guidance to the faculty by way of continuous counselling and training. Some of his functions to achive being :

1. Clear communication of Mission/ Objectives to all levels of staff
2. Planning and organising tasks and resources
3. Organising necessary training
4. Monitoring performance/action variance
5. Leading by commitment and example
6. Advising and encouraging the team

9.0 TRAINING FOR QUALITY :

For brining up the desired change for quality functioning of the institution, improving the personal quality of individuals

through training intervention is essential. Trainig programmes be worked out to motivate the people to work towards the set goals, empowering them with responsibilities and train them to work in teams, finally to bring a positive change in attitude of the work force.

10.0 SUMMARY:

In order to obtain quality production in industries, there is a need to produce quality technicians. Polytechnics need to orient their working with emphasis on quality, as the quality culture needs to be developed at the institutions first. An attempt to nurture the Polytechnics as quality centres to act as role models for its products who are later likely to assume pivotal role in industry as technicians resposible for quality products. It is time our Polytechnics move in the pursuit of Quality, so that students turned technicians coming out of the system, will adopt this culture in their later part of life.

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