THE APPLICATION OF TOTAL QUALITY MANAGEMENT (TQM) IN ACADEMICS

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ABSTRACT

This paper examines the issue of quality of education in India. The paper recognizes quality of education as one of the most widely used and spoken of concept in India, although, very little or no unanimity with regard to its meaning has been reached. This is essentially true in higher education as compared to industry where clearly definable products with quantifiable qualities exist. The 'product' of higher education is intangible and the customer very difficult to identify. However, in India today, there is mounting concern about the state of education at all levels. This is rooted in the realization that literacy levels and academic achievement will determine individual's job attainment and earning as well as the general economic well being of the society. Moreover, the quality of life in the society will be affected by the level and quality of social skills acquired in educational institutes. It is in line with this that the paper looks at the various issues bordering on quality of higher education in India and suggests different options and strategies which can be used to improve the quality of education, especially, at the university level. Thus, the following questions will be answered in the paper: How is quality perceived? Can it be measured? What is the interrelationship between internal and external assessment procedures? How can educational institutes deal with quality improvement and development within the context of Total Quality Management (TQM)?

The quality has become integral feature of the education all over the world. We are continually faced with quality initiatives and controls, not only from central governments but also from awarding bodies. Often, these quality initiatives are also incorporated into appraisal schemes and in Total Quality Management (TQM). This study examines literature relating to TQM, quality assurance, and quality enhancement and also considers the impact an interpretive approach to quality would have on the pedagogic practice of tertiary institutions. The role of university management is to provide the vision and the making of that vision a reality through encouragement and active participation in quality oriented exercise. This paper will provide a framework toward achieving this.

Keywords: Total Quality Management, Academia, PDCA Approach

1. INTRODUCTION OF TQM CONCEPT

The concept of Total Quality Management (TQM) was developed by an American, W. Edwards Deming, after World War II for improving the production quality of goods and services. The concept was not taken seriously by Americans until the Japanese, who adopted it in 1950 to resurrect their postwar business and industry, used it to dominate world markets by 1980[8]. By then

most U.S. manufacturers had finally accepted that the nineteenth century assembly line factory model was outdated for the modern global economic markets.

The concept of TQM is applicable to academics. Many educators believe that the Deming's concept of TQM provides guiding principles for needed educational reform. In his article, "The Quality Revolution in Education," John Jay Bonstingl outlines the TQM principles he believes are most salient to education reform[7].

Total quality is a people-focused management system that aims at continuous increase of customer satisfaction at continually lower real cost. Total quality is a total system approach (not a separate area or program), and an integral part of high-level strategy; it works horizontally across functions and departments, involves all employees, top to bottom, and extends backwards and forwards to include the supply chain and the customer chain. Total quality stresses learning and adaptation to continual change as keys to organizational success.

The foundation of total quality is philosophical: the scientific method. Total quality includes systems, methods, and tools. The systems permit change; the philosophy stays the same. Total quality is anchored in values that stress the dignity of the individual and the power of community. Meanwhile, we need to first consider how quality is perceived.

2. HOW THE QUALITY IS PERCEIVED?

Quality is a multidimensional concept and cannot be taken for granted, but must be defined every time it is used in investigations. How we should perceived quality in higher education in India? The definition of "quality" can be fluid and interpreted within the broadest sense, and is often considered against local contexts and benchmarks.

Quality, in general terms, is most often defined as "fitness to purpose" in relation to the user and customer needs (Juran, cited in Wilkinson, Redman, Snape and Marchington, 1998). Quality can also be taken to mean that the "product conforms to standards, specifications or requirements" (Crosby, cited in Wilkinson, et al., 1998). British Standards Institute (BSI) defined quality as "the totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs." [8]

'Product' in industry is a definable and tangible item (output), manufactured according to specifications and ready for sale. 'Product' in education may be referred to 'output', that is 'graduates' who are awarded certificates having fulfilled all stipulated requirements. They are attested to possess knowledge and skills with which they can impact society

Thus it is..... Conformance to Specifications giving every Customer COMPLETE SATISFACTION

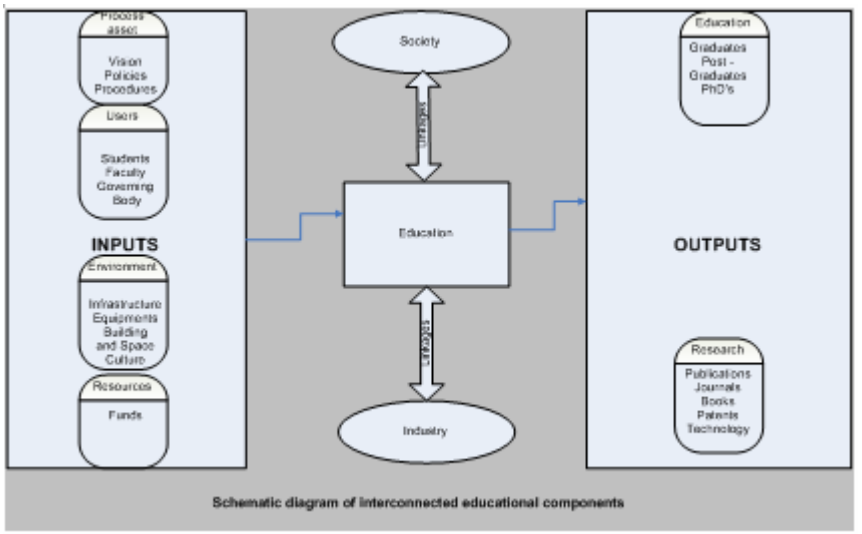
Now let us attempt to map the definition of quality from education point of view;

Key words of the definition	Educational perspective
Totality of features and characteristics	▪ The graduates should be able to go out to the society and prove their worth by their level of performance in the competitive job market. The issue of comparability and international competitiveness of qualifications is therefore, seen as being a central feature of quality education.
Product or Services	▪ Students who are awarded the degree or certificated ▪ Publications
Its ability (whose?)	▪ Educational Systems and Procedures ▪ Faculties ▪ Students
Stated	▪ Fitness/usability of educational products / students in Industries / business / Services / etc within the bare minimum time frame
Implied	▪ Application of concepts/knowledge in doing the thing differently in comparison with theoretical methods
Needs	▪ Market / Employer's / society / Customer requirements

3. INTERCONNECTION OF EDUCATIONAL COMPONENTS:

As we all know that the education is an integrated approach. Before we apply the TQM approach to transform the education in to the quality education, it is very much essential to look at the different components involved and how they integrated with education.

Attempt has been made to depict educational components through the following diagram.



Schematic diagram of interconnected educational components

4. ACHIEVING EXCELLENCE IN EDUCATION THROUGH DEMING PHILOSOPHY:

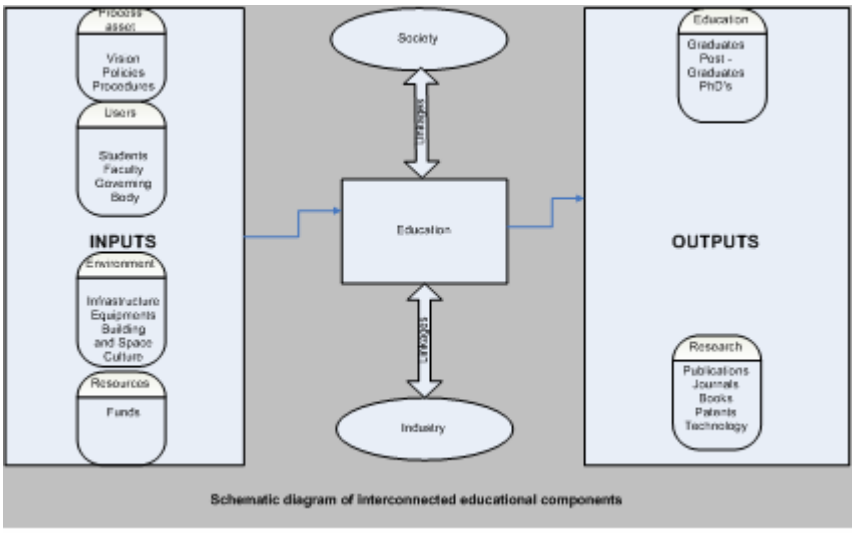
Mr. Edward Deming says that 85% to 90% quality is management problem. In order improve the organization wide total quality, Mr. Deming gave 14 point approach [6].

In this paper attempt has been made to apply Mr. Deming approach to improve the overall quality in the education. Mr. Deming approach has been customized with respect to Indian perspective. The proposed approach is mentioned below [6];

1. Create constancy of purpose for improvement of Educational product and processes.
2. Cease reliance on process inspections alone to achieve Education Quality. Quality must be built in to the entire educational process. Improve constantly and forever the process of Knowledge Transfer, Knowledge assessment and Application of Knowledge. Educational quality comes not from producing students, but through process improvement that provides quality education at its source
3. End the practice of developing Educational Framework and Processes on the basis of "on-time," "within year", "within semester", "for the examination" purpose alone. What is the purpose if the institutional product does not meet all industries and society's needs?

4. Institute training on quality of education and knowledge transfer. Knowledge transferors must know who uses the knowledge they transfer, for what purposes, and what costs and consequences when it is missing or wrong.
5. Institute leadership for better educational quality. Institute must have an educational quality leader to guide the organization. Institute must reward teamwork that results in Knowledge sharing that maximizes educational value and increase the usable products to industries and society.
6. Drive out fear of breaking monotony or applying new experiments/methods. Knowledge producers must feel secure to perform their job well. They should not be punished for failures. Reward people for identifying problems.
7. Break down barriers between Knowledge givers & Knowledge takers & between knowledge users to share views. Educational components and units must work together to satisfy the end users.
8. Eliminate slogans and exhortations, and replace with actions for educational quality improvement. Implement a PDCA process for evaluating educational process.
9. Remove barriers to pride of workmanship; allow knowledge producers to fix the problems in the processes.
10. Encourage education and self-improvement for all people in the educational system. You must learn tomorrow's knowledge skills.
11. Take action to accomplish the transformation for quality in education. Institute leadership has personal accountability to implement the management systems that support quality in the education system.

All the 11 points approach mentioned above can be grouped in to the four mail pillars shown below



Schematic diagram of interconnected educational components

The brief purpose and significance of each pillars are described below;

Pillar #1: Establish the Synergistic Leadership and strategic Relationships

- Establish the constancy of purpose for better educational quality.
- Formulate the long term vision and strategies for better education.
- Establish the quality standards in Infrastructure, Process, faculties and other deliverables.
- Help to establish better socio-economic culture within the society.
- Formulate Quality council comprising of Management team, Faculties, Student representatives, End-users, Parents, and social leaders.
- The success of TQM is the responsibility of top management.
- The institution teachers must establish the context in which students can best achieve their potential through the continuous improvement that results from teachers and students working together.
- Teachers who emphasize content area literacy and principle-centered teaching provide the leadership, framework, and tools necessary for continuous improvement in the learning process.
- According to the practical evidences, the TQM principles help the institutions in following clauses:
  - Redefine the role, purpose and responsibilities of institutions.

- Improve institutions as a "way of life."
- Plan comprehensive leadership training for educators at all levels.
- Create staff development that addresses the attitudes and beliefs of institution staff.
- Use research and practice-based information to guide both policy and practice.
- Design comprehensive student-development initiatives that cut across a variety of agencies and institutions.

Pillar #2: Effective Translation and Execution

- Establishing Customer and supplier relationship involved in the Education system. The concept of synergy suggests that performance and production is enhanced by pooling the talent and experience of individuals. In one sense, the student is the teacher's customer, as the recipient of educational services provided for the student's growth and improvement. Viewed in this way, the teacher and the institution are suppliers of effective learning tools, environments, and systems to the student, who is the institution's primary customer.
- The institution is responsible for providing for the long-term educational welfare of students by teaching them how to learn and communicate in high-quality ways, how to access quality in their own work and in that of others, and how to invest in their own lifelong and life-wide learning processes by maximizing opportunities for growth in every aspect of daily life. In another sense, the student is also a worker, whose product is essentially his or her own continuous improvement and personal growth.
- In a classroom, teacher-student teams are the equivalent of industry's front-line workers. Hence Cohesive integration in class rooms and developing sense ownership towards each other
- The very application of the first pillar of TQM to education emphasizes the synergistic relationship between the "suppliers" and "customers". The concept of synergy suggests that performance and production is enhanced by pooling the talent and experience of individuals.
- Own the education Profession, Processes and effectively utilize for knowledge transfer.

Pillar #3: Continuous Evaluation and Self Evaluation

- Education is the total dedication to continuous improvement, personally and collectively. Within a Total Quality institution setting, administrators work collaboratively with their customers: teachers.
- The foundations for this system were fear, intimidation, and an adversarial approach to problem-solving.
- Today it is in our best interest to encourage everyone's potential by dedicating ourselves to the continual evaluation of our own abilities and those of the people with whom we work and live. Total Quality is, essentially, a win-win approach which works to everyone's ultimate advantage.
- According to Deming, no human being should ever evaluate another human being. Therefore, TQM emphasizes self-evaluation as part of a continuous evaluation process. In addition, this principle also laminates to the focusing on students' strengths, individual learning styles, and different types of intelligences.
- Obtain the feedback from all stakeholders of educational systems, Processes and its end-products.
- Fearlessly identify the problems, gaps and suggestions for improvements in processes concerning to education.
- Drive out fears of failures and carry out fair and transparent assessment. Share the feedback of assessment with relevant stakeholders.

Pillar #4: Improve the Processes - A System of Ongoing Process

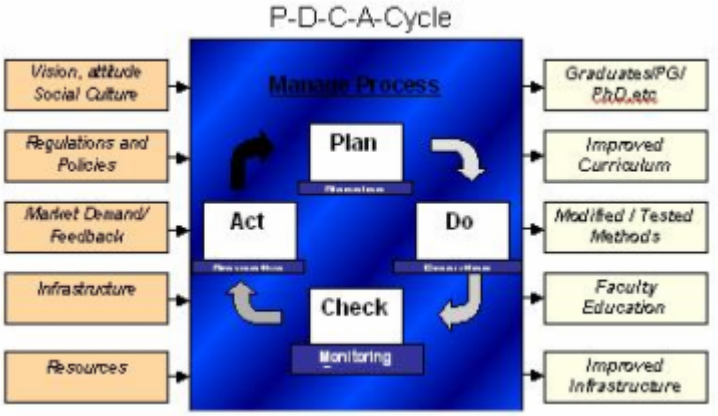
- Recognition of the organization as a system and the work done within the organization must be seen as an ongoing process.
- The primary implication of this principle is that individual students and teachers are less to blame for failure than the system in which they work.
- Quality speaks to working on the system, which must be examined to identify and eliminate the flawed processes that allow its participants to fail.
- Since systems are made up of processes, the improvements made in the quality of those processes largely determine the quality of the resulting

product. In the new paradigm of learning, continual improvement of learning processes based on learning outcomes replaces the outdated "teach and test" mode.

5. PDCA APPROACH FOR CONTINUOUS IMPROVEMENT:

The attempt has been made in this paper to Define and apply the PDCA approach in the educational process. The PDCA is one of the best and achievable approach to achieve the Total Quality in the Education [1].

The following figure depicts the Inputs and outputs of PDCA processes.



6. PROPOSED GUIDELINES TO IMPLEMENT PDCA APPROACH:

1. Management Commitment and good governance
   - Clear vision, strategies and action plan for better educational quality
   - Setting up required infrastructure facilities which would improve overall environment
   - Formulation of quality policy/standards for Infrastructure, Faculties, Curriculum, Teaching, Course material, publications and assessment
   - Formulation of action plan which can be implemented in the Indian environment
   - Establish Transparent and administration practices across all the sections of Institution
   - To establish free and open environment between Management, Faculties and Students

- Maintaining the good socio-economic balance in the society
- Clearly define the role and responsibilities of all stakeholders involved in the education process.

2. Quality Improvement Team
   - Formulate the quality awareness team, which comprises of representatives from Management, Faculties, Students, End-users, and society
   - Establish the feedback mechanism about educational procedures and products on regular basis.
   - Make all stakeholders equivalent partners in quality improvement and give them feeling of sense of ownership
3. Quality Awareness among the Teaching, non teaching ,students and end users
   - Set awareness sessions for Management and governing bodies to explain the meaning of standards about Quality and good governance
   - Educate faculties members about quality of teaching, course material, curriculum and process of education
   - Educate students and parents about the quality of Education, Process, Facilities, course material and assessment procedure.
4. Faculty Training
   - Training the faculties before they start their career in the Institution about quality standards and procedures
   - Training on common content and delivery process
   - Training for preparing standard course material
   - Training for free, fair and standard assessment procedures
   - Continue the training at periodic level to ensure that faculties remain updated with the latest updates
   - Provide an exposure to the real life application of course content with the end-users, so that importance of teaching can be understood
5. Set up a Zero Defect Committee

- One steering group or committee should be formed to ensure that products of all educational processes can be delivered first time and defect free.
- Committee will also verify the suggestions and defects identified and validate its implementation to prevent recurrence

6. Quality Measurement
   - Define the measurement parameters for educational processes and components.
   - The two major components for the measurements are Output and Educational process. This may include educational processes / components are Faculty hiring process, Delivery methods, Course administration and material, Admission process, Assessment methods, Assessor's characteristics
   - The most general approach to measure the quality of education on the basis of the examination result. But the value added by an Institution in the life of students and society are also should be considered.
   - While measuring the quality, basic motivational and influential factors on the entire educational process should not be over looked.
7. Cost of Quality Evaluation
   - The cost incurred for the evaluation of Educational Quality should be considered as cost of Quality Evaluation.
   - Cost of evaluation can be incurred by hiring External resources or internal resources.
   - The educational institute should attempt to minimize the cost of quality evaluation. This can be done by following proper Quality Assurance Procedures/systems.
8. Corrective Action
   - Any exceptions/deviations identified during the Quality Measurement or Quality Evaluation processes should immediately corrected. Before taking corrective actions, the actions and impacts should be documented and approved by Quality Improvement team and Quality council.
   - The purpose of corrective actions is to bring back educational processes which have been deviated from baseline procedures.

9. Quality Councils

- The purposes of formulating quality councils is to give a representation to all stakeholders involved in the entire educational processes and are concerned with any positive or negative out come.
- Any improvement identified by Quality improvement team should be presented and discussed during the meeting of quality council meeting.
- The schedule of meeting should be published in advance.
- The issues discussed and views expressed by all members should be documented and circulated to all concerned for their benefits and awareness. This would also bring the involvement of every one.
- The quality council should comprise of all stakeholders and should steer by senior member of the respective institute.

10. Recognition

- Recognition and rewards are the motivational factors for every one involved in the educational process.
- Recognize and appreciate the key contributors for their suggestions and initiative in the quality improvement process.
- The institution al performance appraisal system should also give due consideration and weight age for such contributor.
- By Recognizing and appreciation, it would motivate others to take active part in improving the quality of educational processes.

11. Do It Over Again

- Since quality improvement is continuous process, it has to follow the Plan-Do-Check-Act cycle in the iterative manner.
- Do all the steps over again and again.

7. CONCLUSION:

This experience demonstrates that the TQM principles do apply and work very well in the academics and more specially in higher education. In summary, the educational team:

- Treated the students as customers, listened to their feedback, and designed the course to satisfy their needs.
- Empowered the students by giving them much personal freedom in the selection of project areas, classroom texts, and reporting style, and the educational team supported them in these pursuits.
- Developed a teamwork environment among the students and instructors in problem-solving exercises, meetings, and course improvement.
- Engaged the students and end-users in the continuous improvement process by soliciting feedback in each session using various quality techniques, and used the student feedback as data to decide how to tailor improvements, nearly real-time.
- Demonstrated leadership in the classroom by practicing the quality philosophy and principles which it was teaching.

TQM in education summed up why our educational team will continue its adaptation of TQM to the classroom.

Some faculty have begun to realize the fruits of their labor in students who take responsibility for their own actions, participate freely in discussions, and seek to learn concepts on their own students who have a vision of who they are, what they want to become, and who freely cooperate and encourage others.

Based on the international standards and practices, we believe that experience with using TQM methods in the classroom/institute has shown it to be an effective and exciting way to teach. We believe that all those who are involved in the education of others should be encouraged by this and similar experiences to consider using the TQM approach to improve their instruction and to challenge and empower their customer-students.

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