CHAPTER 4

TOTAL QUALITY MANAGEMENT IN HIGHER EDUCATION

“A university stands for humanism, for tolerance, for reason, for the adventure of ideals, and for the search of truth. It stands for the onward march of the human race towards ever higher objectives. If the universities discharge their duties adequately, then it is well with the nation and the people”.

Jawaharlal Nehru

When Hillary decided to climb the Mount Everest, more than half-a-century ago, he was well aware that it was a horrendous task and could make it only with the guidance of Tensing, the Sherpa. A guide/guru effects eternity; he can never tell where his influence stops. The influence of guru will be great and long lasting and will create an epoch and history provided his / her influence is ‘qualitative and deep’.

“Used in the educational context, the concept ‘Quality’ is essentially elitist. When addressing quality in its technical sense, there is still an aura of luxury and status about it. Quality is a relative concept, not as an attribute of a product or service, but as something which is ascribed to it. Quality can be judged to exist when a good or service meets the specification that had been laid down for it. Quality is not the end in itself, but a means by which the end product is judged to be up to standard”.

As the British Standards Institution defines, “they (goods and services) must be fit for their purpose. Luxury, beauty, exclusivity, and price do not enter in to the equation.” This view of quality is sometimes called ‘quality in fact’. Quality in fact is the basis of the Quality Assurance Systems
(QAS) devised in accordance with the British Standard Institution of the BS5750 Std or the Identical International Standard, ISO 9000².

In higher education, it embraces the quality of inputs viz., students, faculty, the infrastructure, and the processes of education covering learning activities, extra-curricular activities, community development activities, and the quality of the output in terms of students and the graduates. In fact it is all permeating, covering all aspects of life in institutions of higher learning and therefore includes discipline and ethical values associated with the academic community. Quality is that which best satisfies and exceeds customers’ needs and wants. This is sometimes called ‘Quality in Perception’. Quality can be said to lie in the eyes of the beholder.

Tom Peters, discussing the pivotal role of the consumer in quality in thriving on chaos, argues that the perceived quality of a product or service of a business is the most important single factor affecting its performance. It is necessary to understand the difference between three other important quality ideas:

- Quality Control,
- Quality Assurance, and
- Total Quality.

**Quality Control** is the oldest concept. It involves the detection and elimination of components or final products which are not up to the standard. It is an after-the-event process concerned with detecting and rejecting defective items. Inspection and testing are the most common methods of quality control.

**Quality Assurance** is the before-and-during-the-event process. Quality is designed in to the process to attempt to ensure that the product or
service is produced for a pre-determined specification. Simplify, quality assurance is a means of producing defect-and-fault-free product. The aim, in the words of Philip B Crosby, is Zero Defect.

**Total Quality Management** incorporates quality assurance, and extends and develops it. TQM is about creating a quality culture where the aim of every member of staff is to delight their customers and where the structure of their organization allows them to do so. Here the customer is the sovereign. It is the approach popularized by Peters and Waterman in “In Search of Excellence” and which has been a constant theme of Tom Peter’s writings since³.

This approach is about providing the customer with what they want, when they want it, and how they want it. It involves moving with changing customer expectations and fashions to design products and services which meet and exceed their expectations.

Two fundamental questions to understand quality are:

- first, what is the product?
- second, who are the customers?

These questions are equally applicable to the discussion of quality in education too.

**What is the product of education?**

Rather than answer this directly, it is more helpful to view education as a service rather than a production line. Service quality characteristics are more difficult to define than those for physical products.

The quality of the service is determined by the person delivering it and the person receiving it. Unlike production, there can be no absolute
consistency or homogeneity in service delivery. The only meaningful performance indicators are those of customer satisfaction. Intangibles or soft measures are often as important to success. “Soft indicators - Care, Courtesy, Concern, Friendliness, and Helpfulness are often uppermost in customers’ mind”.

Who are the customers?

To some educationalists, ‘customer’ has a distinctly commercial tone which is not applicable to education. They prefer to use client instead. ‘Stakeholders’ are another term often used in this context. Others, a third view, reject all such languages and would rather stay with ‘pupil/student’. The UNESCO Report defines the main objectives of higher education in four ways:

- Learning to know (tools of comprehension),
- Learning to do (to be able to interact with the environment),
- Learning to live with others (participates and cooperates with others in all human activity), and
- Learning to be (it being the essential way which integrates the previous three Processes of learning).

The ‘Education Reform Act 1988’ makes the distinction thus:

- Education - The service
- The Learner - Primary external customer (client)
- Parents - Secondary external customer
- Labour market - Tertiary external customer
- Teachers/ Support Staff - Internal customers.
Harvard Professor David Garvin, in his book “Managing Quality” summarizes five principal approaches to define Quality:

- Transcendent
- Product based
- User based
- Manufacturing based, and
- Value based.

Quality is not a unitary concept. It is a multiple concept and in higher education it embraces the quality of inputs such as students, teachers, the infrastructure, and the process of education covering learning activities, extra-curricular activities, and community development activities, and the quality of output in terms of students graduating with better grades.

**What is Quality in Education?**

The 21st century knowledge driven society has “Quality” as its defining element, in the same way as ‘Tradition’ defined the ancient society, ‘Religion’ defined the society in the middle ages and ‘Reason’ was the defining element of the 19th century modern society. Defining quality on education is difficult. Like freedom and justice, quality in education can be experienced, but cannot be defined. But, instead of philosophically stating, the quality parameters have been prescribed and the institutions of higher education are rated on the basis of their performance related to the quality parameters like examination results, students’ employment after graduation, reputation of the institution based on external reports and so on. Though there may be different degrees or grades in quality, broadly it could, mean that quality is the difference between the average and the excellent. It is the
difference between failure and success. Ensuring that all get the same kind of education ensures equity; using the right methodology ensures quality”.

According to Dr. Krishnakumar, director of NCERT, and Dr. Mina Swaminathan, educationist: “If we provide access to education for all, it takes care of quantity; ensuring that all get the same kind of education ensures equity; using the right methodology ensures quality”. As Malcolm Frazer in his book “Quality in Higher Education” rightly observes: “Quality in higher education is …above all…about what students have learnt (what they know, what they can do and what their attitudes are?) as a result of their interaction with their teachers, departments and university”8. Good buildings with well furnished and well maintained class-rooms, well-equipped laboratories, a good library with ample facilities for students, well-qualified and committed faculty and an environment which facilitates the prevalence of an effective teaching-learning process, are all important sources of quality.

**Quality in Higher Education**

World over several definitions have been put forth on “quality in higher education”. Quality is seen as a relative concept satisfying priorities of different interest groups or beneficiaries. These beneficiaries are students, teachers, technical and administrative staff, parents, would-be-employees, funding agencies, and the society. In a manufacturing industry the input (the material), the process (the manufacturing mechanism), and the output (the product) are pre-determined and the user needs to be assured of the quality of the product. However, in education, every element - the input, the process, and the output- is a human being and cannot, therefore, be dealt with such a simplistic approach. Ellis states that quality itself is a somewhat ambiguous term (in higher education) since it have connotations of both standards and excellence. Most of the debates on quality end with synonym between
“Quality” and “Excellence”. There is also a notion of quality as conformation to a standard or specification.

One has to look at the functioning of the institutions of higher education – academic and organizational – from a totality angle. This necessitates a pan-optical (the all-seeing eye) approach for assurance of quality in higher education. The full-blown pan-optic in higher education system would have a three tiered nature: Internal Quality Assurance Mechanism, Evaluation by Peers, and Accreditation by an independent and competent organisation. The price of higher education is determined by the primary law of economics in terms of demand and supply. As a result of this unique and unprecedented situation, the quality of higher education is coupled with customers’ satisfaction at competitive cost. The international Network of Quality Assurance Agencies in higher education has been established and it has bought about an accord among the quality assessment agencies world across to encourage mutual recognition.

Obviously, enough global conferences on the quality assurance in higher education have now become a regular feature of the international community. The conference held in 1991 at Hong Kong (attended by 23 countries) was followed by the UNESCO-Conference held in Paris. The World Bank published “Higher Education: The Lesson of Experience” in 1994 and “Priorities and Strategies for Education” in 1995; and the international conference on “Quality Assurance in Higher Education: Standards, Mechanisms and Mutual Recognition” was held in Bangkok, Thailand in November 2000. It was organized by the Ministry of University Affairs, Thailand and UNESCO in collaboration with the British Council, Australian Vice-Chancellors Committee called MONBUSHO, the Council of Rectors in Europe, and ASEAN University Network, Association of universities of Asia and the Pacific and a few other agencies.
The four main objectives of the Bangkok Conference\(^9\) were:

- To share and exchange information and experiences on critical issues such as standards, mechanisms, credit transfer, mutual recognition, and ranking on quality assurance in higher education among experts, academics, administrators and policy makers.

- To explore and identify trends and best practices on quality assurance in higher education

- To develop recommendations for and promote international co-operation in improving quality assurance in higher education

- To explore regional co-operation in quality assurance in higher education.

The core statement of the Bangkok conference is as follows:

“Quality assurance in higher education has become a global issue. Universities throughout the world focus special attention on implementing quality assurance system in order to be classified as world-class quality education”.

“The quality of higher education is judged mainly by the strength of ethical and pedagogical principles it embodies. It is driven by a number of conflicts and paradoxes: the contradiction between explosion and fragmentation of demand on one hand and the unemployment which affects an ever growing number of graduates on the other; between the provision of equal access and opportunity, and the financial constraints upon the mass extension of higher education; and finally between ethical and moral obligations and the various incitements of knowledge and discoveries. Faced with such tensions and paradoxes, higher education, must develop a new vision, take advantage of its adaptability, flexibility and imaginative
resources in order to develop problem-solving and forward-looking capacities, equip itself with an ever watchful critical spirit and promote teamwork, without ever jettisoning its role as ethical watchdog”.

The issue of quality cannot be dissociated from the quest for excellence and the need to establish education criteria. Many countries are calling for international quality standards. Such criteria and standards should take account of the diversity of situations. The need to develop a culture of evaluation is inseparable from the concept of quality itself intimately bound up with the successful democratization of the higher education system.”

The most important guiding principle behind higher education is the dictum, “The content of our education, and the extent to which we make use of it marks as a community and as a nation. It is not only the fitness for the purpose; it is the fitness for the survival in future also”. The fitness of a college, in this context, depends on three major areas of its operation –

- Class-room learning (knowledge),
- Research (new knowledge), and
- Service to society (application of knowledge to life).

While judging the quality of education imparted in an institution, we should assess not only the knowledge gained by the students which they study, but should also estimate the personality of each student in terms of his/her parts in particular in extra curricular activities like debates, cultural activities, games and sports and social service programs, because education is not mere acquisition of knowledge but is a process of developing one’s personality.
It is interesting to know that Myron Tribus in “Total Quality Management in Education”, while answering the question: ‘what should good education provide for learners?’, mentions that “good education should provide for knowledge, which enables us to understand; know-how, which enables us to do; wisdom, which enables us to set priorities; and character, which enables us to co-operate, to persevere, and to become respected and trusted members of society”\(^{11}\).

**Can Quality of Education be measured?**

With quality being associated with a number of characteristics, many of which cannot be measured objectively, the task of judging the quality of education is a highly complicated undertaking. Yet, it is definitely possible to distinguish good quality from bad quality and as is being already done in some western countries, quality in higher education can be measured in terms of certain parameters or performance indicators; like examination results, facilities available in the institution, participation in extra-curricular activities, prospects of employment, and higher studies and the like.

**How to improve quality of higher education?**

The next question, and the relevant one to be answered is, How to improve quality of higher education? One of the answers to this question is that concepts adopted in the profit-centered business and industrial organizations can be adopted to improve the standard of students in educational institutions too. The debate whether the ideas and methods relating to business and industrial or other profit making organizations are relevant to educational institutions which are service-oriented and not profit-oriented, is no longer of serious importance, as in several countries, there is a transfer of three industry-based concepts to educational management. It is in this context that the TQM is suggested a way to improve the quality of education imparted in the centres of higher learning.
TQM is essentially a philosophy of continuous improvement. Trying constantly to upgrade the quality of a product, to the satisfaction of the customers, is at the root of the process of TQM. Joseph Juran,\textsuperscript{12} one of the exponents of TQM, uses the Japanese word ‘Kaizen’ to explain that TQM means step by step improvement. He emphasizes the major role of the management in tackling problems relating to quality. Philip Crosby,\textsuperscript{13} another prominent exponent of TQM, states that the first step in quality improvement program, is the commitment of the management to quality improvement. Mr. Crosby is also remembered for his concept of Zero Defects which implies that in a perfect quality product there should be no defects in production process. Edwards Deming,\textsuperscript{14} another philosopher of TQM, also gives importance to the role of the management. According to him the problem of quality lies primarily with the management.

To sum up, TQM implies:

- Serious concern for improving quality “at all levels”.
- Giving utmost importance for the customers’ demands, treating the customer
- As sovereign and trying to satisfying customer fully.
- Management’s total commitment for enhancing the quality of the products.
- Setting up goals and planning in advance for upgrading quality.
- Removing the defects in the process of production, and improving the process at all levels.
Is TQM relevant for Education?

TQM is applied in business and industry; but it has been recently introduced and experienced in higher education. Many universities and colleges apply Total Quality Management as a tool to enhance the quality of higher education. The concept of quality is accepted by everyone. In a world of ever increasing competition, privatization, and internationalization of higher education, many educational institutions in India and abroad apply TQM principles in education.

It is simple to implement the general principle of TQM in educational institutions. Modifications or alterations in the theory to suit the educational institutions can be made for achieving the best results. Even in Industry and business, there is no rigid or single model of TQM. Depending on the situation prevailing in each organization, the concepts of TQM are applied. Hence pretty confidently, the theory of TQM can be adapted in general to the advantage of the educational institutions, to improve the quality of education.

Edward Sallies in his book ‘Total Quality Management in Education’ observes: “TQM is a philosophy of continuous improvement, which can provide any educational institution with a set of practical tools for meeting and exceeding the present and future customers’ needs, wants and expectations.”15 Dean C. Habbard in the paper “Total Quality Management in Higher Education – Learning from the factories” asks: If American industries can dramatically improve their effectiveness through their application of TQM principles, would similar improvement result in education adopted the same approach?”16.

His answer to the question is in the affirmative and explains in his paper, in detail, the experience of his university (North West Missouri State University) in implementing the TQM approach.
To suit the TQM principles to educational institutions, the following steps should be followed:

- Creating quality consciousness, among all concerned with the educational institutions, namely, management, faculty, students, parents, and the society at large.

- Total commitment of the management of the educational institutions, be it government, university, or a private body, for providing quality education.

- Treating the students as the sovereign authority and creating a feeling amongst the faulty that the institution exist for the students and not for the staff. Students are not the only customers of an educational institution; the parents, employees, and the society at large are also coming under the purview. Since students are the primary and direct customers of an educational institution, the students should get the best from them.

- Setting up of short term and long term goals for improving the quality of education and preparing plan of action for achieving the goal.

- Monitoring the quality improvement programme at frequent intervals and making suitable alterations whenever necessary in the programme.

- Motivating the staff to work with enthusiasm and dedication to achieve the goals set.

- Pay attention for improving the entire process of teaching-learning and the environment in the institution to bring out the best from the students. If the quality of education is to be improved, the entire process of learning-teaching and then educational environment in the organization has to be improved.
• Provide effective and dynamic leadership to the institution for successfully implementing the TQM programme.

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’ as the most salient for ‘educational reforms’. John Jay Bonstingl (1992) calls them the “four pillars of total quality management”.

Principle 1: Synergistic Relationships

According to this principle, an organisation must focus, first and foremost, on its suppliers and customers. In a TQM Organisation, everyone is both a customer and supplier; this confusing concept emphasizes “the systematic nature of the work in which all are involved”. In other words, team-work and collaboration are essential. Traditionally, education has been prone to individual and departmental isolation. However, according to Bonstingl, this out-dated practice no longer serves us: “When I close the class-room door, those students are mine!” is a notion too narrow to survive in a world in which team-work and collaboration result in high-quality benefits for the greatest number of people. The very application the first pillar of TQM to education emphasizes the synergistic relationship between the “suppliers” and “customers”.

In a class-room, teacher-student teams are the equivalent of industry’s front-line workers. The product of their successful work together is the development of the students’ capabilities, interests, and character. In one sense, the student is the teacher’s customer, as the recipient of educational services provided for the students’ growth and improvement. Viewed in this way, the teacher and the institution are suppliers of effective learning tools, environments, and systems to the students, who are the
primary customers. The educational 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

**Principle 2 : Continuous Improvement and Self Evaluation.**

The second pillar of TQM applied to education is the total dedication to continuous improvement, personally and collectively. Within a Total Quality setting, administrators work collaborates with their customers. Gone are the vestiges of “scientific management”… whose watchwords are compliance, control, and command. The foundations for this system were fear, intimidation, and an adverse approach to problem-solving. Today it is in our best interest to encourage everyone’s potential by dedicating ourselves to the continual improvement 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 improvement process. In addition, this principle also laminates to the focusing on students’ strengths, individual learning styles, and different types of intelligences.

**Principle 3 : A System of Ongoing Process**

The third pillar of TQM as applied in academics is the recognition of the organisation 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” mode²⁰.

**Principle 4 : Leadership**

The fourth TQM Principle applied to education is that the success of TQM is the responsibility of top management. 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-centred teaching provide the leadership, framework, and tools necessary for continuous improvement in the learning process”²¹.

According to the practical evidences, the TQM Principles help educational institutions in the following clauses:

- Re-define the role, purpose, and responsibilities of educational institutions
- Improve them as a “way of life”
- Plan comprehensive leadership training for educators at all levels
- Create staff development that addresses the attitudes and beliefs of staff
- Use research and practice-based information to guide both policy and practice
• Design comprehensive development initiatives that cut across various agencies and institutions.

In order to achieve the above as opportunities to the academic scenario, in addition to patience, participatory management among well-trained and educated partners is crucial to the success of TQM in education – primary, secondary or tertiary. Everyone involved must understand and believe in principles. The personnel who are committed to the principles can facilitate success with TQM. Their vision and skills in leadership, management, interpersonal communication, problem solving, and creative cooperation are important qualities for successful implementation of TQM.

The simple objective of TQM is “do the right things, right the first time, every time”.

The key principles of TQM are:

• Management commitment
• Plan
• Do
• Check
• Act
• Employee empowerment
• Training
• Suggestion scheme
• Measurement and recognition
• Excellent teams
- Fact Based decision making
- Statistical process control
- Team oriented problem solving
- Using statistical tools in decision making
- Evaluation of decisions on historical facts
- Continuous improvement
- Systematic measurement and focus
- Ever-excellent team making
- Cross-functional process management
- Attain, maintain, improve standards.
- Customer focus
- Supplier partnership
- Service relationship with internal customers
- Never compromise quality
- Customer-driven standards.

**The Concept of Continuous Improvement by TQM**

TQM is mainly concerned with continuous improvement in all work, from high level strategic planning and decision-making, to detailed execution of work elements on the shop floor. It stems from the belief that mistakes can be avoided and defects can be prevented. It leads to continuously improving results,
in all aspects of work, as a result of continuously improving capabilities, people, processes, technology, and machine capabilities.

‘Continuous improvement’ must deal not only with improving results, but more importantly with improving capabilities to produce better results in the future. The five major areas of focus for capability improvement are:

- Demand generation
- Supply generation
- Technology
- Operations, and
- People capability.

A central principle of TQM is that “mistakes may be made by people, but most of them are caused, or at least permitted, by faulty systems and processes. This means that the root cause of such mistakes can be identified and eliminated, and repetition can be prevented by changing the process”\(^{22}\).

There are three major mechanisms of prevention:

- Preventing mistakes from occurring (mistake-proofing or Poka-Yoke)
- Where mistakes can’t be absolutely prevented, detecting them early to prevent them being passed down the value added chain (Inspection at source or by the next operation).
- Where mistakes recur, stopping production until the process can be corrected, to prevent the production of more defects (stop in time).

However, a certain level of stress is probably desirable to initiate TQM in higher education. The People need to feel a change. Kantor
addresses this phenomenon as “building blocks which are present in effective organizational change”\textsuperscript{23}. These forces include ‘departures from tradition’, a ‘crisis or galvanizing event’, ‘strategic decisions’, individual “prime movers”, and action vehicles.

‘Departures from tradition’ are activities which occur when we move outside the normal ways of operating to solve a problem. In higher education, when we apply TQM, we must move from the traditional paths that we have followed hitherto. Then we will face a crisis. This crisis can help to create a sense of urgency which will mobilise people to act. This may result in demands from customers or stakeholders for improved quality of education. When this crisis occurs, we will be compelled to think strategically by articulating a new vision of the future. A plan to implement TQM may be such a strategic decision. Then we will become prime movers, as there is no other alternative left, in championing the new idea and showing others how it will help them get where they want to get to. Finally, action vehicles are needed and mechanisms or structures to enable the change to occur and become institutionalised.

TQM encourages participation from top to bottom. There is no single theoretical formalization of Total Quality Management, but Deming, Juran,\textsuperscript{24} and Ishikawa\textsuperscript{25} provide the core assumptions, as a “… discipline and philosophy of management which institutionalises planned and continuous… improvement… and assumes that quality is the outcome of all activities that take place within an organization; that all functions and all employees have to participate in the improvement process; that organisations need both quality systems and a quality culture…”

**TQM House in Higher Education**

To be successful implementing TQM and for building a TQM House, we must concentrate on the following four phases:
1. Foundation – It includes Ethics, Integrity, and Trust

2. Building Bricks – It includes Training, Team-work, and Leadership.

3. Binding Mortar – It includes Communication

4. Roof – It includes Recognition.

Fig. 4.1 - TQM House in Higher Education

Foundation:

TQM is built on a foundation of ethics, integrity, and trust. It fosters openness, fairness, and sincerity and allows improvement by everyone. These three elements move together.
**Ethics.** Ethics is the discipline concerned with good and bad in any situation. There are organizational ethics and individual ethics. Organisational ethics establish a code of ethics that outlines guidelines that all employees are to adhere to in the performance of their work. Individual ethics include personal rights or wrongs.

**Integrity.** Integrity implies honesty, morals, values, fairness, and adherence to the facts and sincerity. TQM will not work in an atmosphere of duplicity.

**Trust.** Trust is a by-product of integrity and ethical conduct. Without trust, the framework of TQM cannot be built. It encourages commitment and fosters risk-taking for continuous improvement.

**Bricks:**

Basing on the strong foundation of trust, ethics, and integrity, bricks are placed to reach the roof of recognition. It includes:

**Training.** Training is very important for employees to be highly productive. Proper and ample training for teachers will make them very effective and qualitative.

**Teamwork.** Teamwork is a key element of TQM. In teams, people feel more comfortable and productive. Team enjoys synergy which is the basic element for success.

**Leadership.** Leadership in TQM requires an inspiring vision and direction from the management. A committed management with a visionary zeal is the *sine qua non* for TQM in higher education.

**Binding Mortar:**

The binding mortar of the TQM House in higher education is the infallible communication. It acts as a vital link among all elements of TQM.
Communication. It binds everything together. Starting from foundation to roof of the TQM house, everything is bound by strong mortar of communication. Communication coupled with the sharing of correct information is a pre-requisite for TQM in higher education. There are different ways of communication such as upward communication, downward communication, and sideways communication.

**Roof:**

The roof in TQM House is recognition. Recognition is the last and the final element in the entire system.

Recognition. Employees strive to receive recognition for themselves and their teams. Detecting and recognizing contributors is the most important job of the management. As people are recognised, there can be huge changes in self-esteem, productivity, quality, and the amount of effort exhorted to the task at hand. In fine, these eight elements are key in ensuring the success of TQM in higher education.

**TQM Abroad.**

‘The TQM approach has already been adopted in many universities, colleges, and schools in the UK, and in the USA. By 1992, half a dozen educational institutions in the UK had adopted TQM, and in the USA out of 3400 post secondary educational institutions, about 200 had adopted it’.

**TQM in India**

TQM, as a means for quality enhancement, has not been followed by Indian universities and colleges so far. In our country also, TQM can be adopted by educational institutions, and a beginning may be made with a few universities and colleges. Improving quality in higher education must become a great and existing challenge to all concerned in the coming years, as the quality of education determines the status of the country and TQM is
an approach worth meeting that great challenge. Improvement of quality is possible only with a concerted programme of action. Quality is never by chance. As John Ruskin most expressly puts it “quality is never an accident, it is always the result of intelligent effort”.

Suggestions to improve the quality of higher education

Various suggestions for improving the quality of higher education are:

- Increasing the budgetary allocation for education, at least to 6 per cent of the DGP.
- Improving the basic infrastructural facilities in colleges and universities
- Improving the standards of school education
- Academic audit of the institutions of higher education
- Revising and updating the syllabi in all subjects

A central principle of TQM is that “mistakes may be made by people, but most of them are caused, or at least permitted, by faulty systems and processes. This means that the root cause of such mistakes can be identified and eliminated, and repetition can be prevented by changing the process”27.

Teachers and Quality Education

Of all the ingredients of quality education, the most important is the dedicated faculty. A college or university may not have good buildings, furniture, play grounds, and even well equipped laboratories and library. But if the teachers there are enthusiastic, highly motivated, and committed to their task, the students are likely to have the best education. Good scientific equipment, good library and facilities for the staff and students are necessary to have high standards. But even if the facilities are available and the staff is
not motivated, the facilities available will be of no use and the students may not be benefited by those resources. That is why ‘Baroness Pauline Perry’ in “What is Quality in Higher Education” appropriately writes: “Teachers who feel enthusiasm for their job and who are well qualified and experts in what they teach are the only essential ingredients in teaching quality”28.

Quality teaching is the most important source of quality education. Teaching with enthusiasm or teaching which can inspire the learners is quality teaching. “Expert teacher looks at teaching from the point of view of the learner and not the teacher”29. Teaching can be made student-centered by giving assignments to students, by involving them in discussions and seminars, by giving them project work, and in various other ways of problem solving sessions which activate the students. Use of the latest audio and video equipment enhances the quality of teaching. Teaching must be thought-provoking, creative and innovative. Teachers must promote thinking faculty in students. Confucius, the great ancient Chinese philosopher, is credited with having stated: “If his students are encouraged to think for themselves we may call the man a good teacher”.

Students should be encouraged to be imaginative, creative, and critical. For this, teachers must be aware of effective teaching strategies. The use of different teaching strategies makes a teacher more skilled, and the more skilled a teacher is the better will be his teaching. According to Edgar Stones, “one of the main aims of teaching should be the development of problem solving skills among the students. Instead of concentrating on teaching of facts or concepts only, the teacher has to orient their teaching to develop problem solving skills among the students”30.

The UGC has several schemes for upgrading the professional competence of teachers. They are: national fellowship, visiting associate ship, visiting professors / fellows, teacher fellowship, research scientist,
emeritus fellowship, career awards research associateship, major and minor research projects.

Not confined to the class-room:

Quality teaching is not confined to the classroom or the laboratory. Its area is wide and unlimited. A teacher has to be a friend, guide, philosopher and nurse to his students as Nature was to Wordsworth. For promoting quality education, the teachers have to guide and council their students even outside the classroom. A teacher is not a mere instructor. He has to be a promoter, organizer and participant of various activities which makes life in the college vibrant. Instead of keeping themselves away from the students, teachers should try to be nearer to them and help them in their progress in studies and in the development of their personality.

**Intellectual Intrepidity:**

The greatest malady in the present system of education is that it makes the students imitate, rather than creative. From primary classes to university classes, students are trained to assimilate passively. They are given very few opportunities to express themselves actively. Creativity is seen in its proper form in the works of scholars, artists and creators of literature; but it does not find among students. Liberating the creative spirit in every individual is the objective of true education. In spite of progressive educationists, right from the time of Rousseau, advocating student-centred education, we still find the teacher dominating in the classroom. Mere information is considered as tantamount to knowledge and that it could be transmitted to the learner by a sort of intellectual intravenous feeding process. Educational institutions continue to be knowledge shops and teachers information mongers. To quote Swami Vivekananda: “If education
were identical with information, the librarians would be the greatest sages in
the world and the encyclopedias, the Rishis”.

The word ‘Education’ is derived from the Latin verb “educare” (to
bring up a child) and “educere” (to lead out of) – a bringing out of what is
within. If a child’s innate capacities are to be drawn out to the full, the
creative process must in every way be actively stimulated. A strictly
regimented syllabus and a curriculum that is oriented towards examinations
and the ease with which they can be conducted have diminished the
development of creativity in students significantly.

As mentioned already else, a university/college is a community of
scholars; it is a commonwealth of intelligence and scholastic excellence. It is
the case of western universities. In India, the scene may be different and
pathetic; these citadels of higher education may be the dens of unscrupulous
politicians.

**Tertiary Education in a “Borderless” Education Environment**

Investments in tertiary education generate major external benefits
that are crucial for knowledge driven economic and social development.
“Tertiary education facilitates nation building by promoting greater social
cohesion, trust in social institutions, democratic participation and open
debate, and appreciation of diversity in gender, ethnicity, religion, and social
class. Furthermore, pluralistic and democratic societies depend up on
research and analysis that are fostered through social sciences and
humanities programmes. Improved health behaviors and outcomes also yield
strong social benefits, and higher education is indispensable for training the
very required health care professionals. The tertiary education plays a key
role in supporting basic and secondary education, thereby bettering the
economic externalities produced by these lower levels. Improved tertiary
education is necessary for sustainable progress in basic education”

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Modern Management

The university system needs modern management to cope with the demands of the times. Some of the major recommendations of the committee on ‘Alternative Models of Management (AMM)’, under the chairmanship of A. Gnanam are:32

a) “Developing a participatory style of management involving the teachers at all levels;

b) More involvement of user groups in curriculum development of planning;

c) Increasing accountability of all groups in the university;

d) De-centralization of authority and responsibility;

e) Planning long range and continuous monitoring and evaluation;

f) Assessment of performance of universities and colleges”.

Similarly, the recommendations of the Amrik Singh Committee on “Professionalisation of University Administration” also focus on the “implementation of management styles in the administration of universities and colleges”33.

Quality Indicators

The Jarrott Committee appointed by the Committee of Vice-Chancellors and Principals in the UK, in 1985, recommended three types of indicators for assessing the quality of universities/colleges:34

- Internal performance indicator comprising of market shares of undergraduate applications by subject, graduation rates and classes of
degrees, attraction of masters and doctoral students, success rates of higher degrees, attraction of research funds and teaching quality.

- External performance indicator consisting of acceptability of graduates and post graduates in employment, first destination of graduates and post graduates, reputation judged by external review, publications by faculty, the citations, patents, and inventions of faculty, their consultancies, membership, prizes and models of learned societies and the number of papers presented by faculty at conferences.

- Operational performance indicator comprising of unit cost, staff-student ratio, class size, course options available, staff work-loads, library stock availability, and computing availability.

Broadly the performance indicators may be classified in to three categories, viz.

a) Input indicators,

b) Process indicators, and

c) Output indicators.

The “input profile” consists of capital inputs (comprising of buildings, playgrounds, furniture, laboratory equipments, audio-visual equipments, and other capital items), human inputs (such as the teachers, technical staff, and support staff), and the recurring inputs (namely, amount spent on maintenance of buildings, up-keep of the equipments, purchase of annual library stock, and other day-to-day requirements).

The “process profile is describing the educational process in the organisation broadly covering five major activities viz., class-room, extra-curricular activities, games and sports, cultural and community development.
The “output profile” deals with the examination results, employment of out-going students, admission to higher studies, and achievements of its alumni. The university in the case of affiliated colleges and the UGC with regard to the universities should conduct the external evaluation, using the reports thereof; take follow-up action for toning up quality.

**Performance Indicators and Process Indicators**

**Performance Indicators**

The activity in the campus can be described in terms of industrial terminology as the ‘Process Activity’. What happens in the classrooms and outside the classrooms in the campuses of educational institutions give us an idea of the functioning of the institutions. The academic and extra-curricular activities in the institutions determine the quality of education imparted or the quality of the students.

Hence, in evaluating the performance of the institutions of higher education, much attention has to be paid to the teaching-learning processes in the institutions. The teaching-learning processes cannot be quantified. Hence, we cannot have the quantifiable indicators to evaluate the central academic activity in the institution of higher education. That makes the problem of developing “Performance Indicators”(PIs) for institutions a difficult and complicated task. However, it is possible to design performance indicators for institutions of higher education, keeping in view the work done by the constituents of these institutions, viz., staff, students and also taking into consideration the performance of the students in the examinations and other activities.

**Process Indicators**

A simple and easy yardstick to evaluate the work of a university or college is to know its number of working days in an academic year. The
The number of working days done is a good process indicator. The UGC has prescribed for 180 days in an academic year. It is common knowledge that many universities and colleges do not have even 100 working days in an academic year. On the basis of the working days, the performance of the institutions can be categorized. Institutions which work for more than 180 days may be considered as very good institutions, those which work for the stipulated 180 days may be classified as good institutions, and the institutions which work for less than 180 days can be considered unsatisfactory.

The number of classes taken in each subject can also be a process indicator as that is related to the central activity in the educational institutions. The number of tutorials and seminars held, the use of audio-video equipments and the use of new innovative strategies for teaching with the active involvement of the students in the academic activity are also factors which should be reflected in the PIs. Educational institutions have to develop the talents of the students in various faculties like sports, and cultural activities. They should also develop human values like integrity, compassion, tolerance, love for fellow human beings and the like. The development of positive and proper attitudes among the students is also a responsibility of the educational institutions. Programmes and activities conducted to develop the above mentioned talents and values and attitudes among the students should also be reflected in the process indicators.

**Examination Results**

Many people use examination results as an indicator of the performance of an educational institution. It is considered as a simple standard and verifiable indicator to evaluate the performance of a college or university. Jill Johnes and Jim Taylor, in their book “Performance Indicators in Higher Education” has described examination results as an “attractive variable for measuring the quality of education.”
But this yardstick has its limitations – it does not totally reflect the ability or achievements of the students. Rampant malpractices in examinations in certain universities and colleges, vagaries in the valuation of the answer scripts also depreciate the value of results. However, with all its limitations, it is one of the few quantifiable performance indicators in the field of education.

Another P.I for institutions of higher education can be the employment of graduates or post-graduates. If many of the students are employed after the completion of their courses, it can be taken as an indicator of the effective functioning of the system. The increasing number of educational unemployed in our state is a pointer that our higher education system does not provide the right type of education.

Admission into Higher Courses

Admission of students in the higher courses can also be a PI for an institution of higher education. If many graduates from a college are admitted in PG/Higher Courses, it can be presumed that the performance of the college is good. Similarly, if the post-graduates of a college are able to get admission in M.Phil and Ph.D courses, the performance of those institutions can be rated as good. The success of students in the examinations conducted by the UGC like NET, JRF etc., are also indicators of the good performance of institutions. The research work of the faculty is another important PI for a college/university. Publications, presentation of research papers in national and international seminars, the impact or utility of the research and income derived from the research work can be some of the points in judging the value and output of research work in a college.

In the UK, the higher education funding council conducts the Research Assessment Exercise (RAE) for all institutions. Once in four years they are ranked as per the value of their research work. Such assessment
exercises may be conducted in our country also. It will promote competition in the field of research, resulting in the quantitative and qualitative improvement of research in our institutions.

**Academic Audit**

The report of Justice Dr. K. Punnayya Committee 1992-93 has recommended the adoption of the British practice of academic audit with appropriate modifications to suit our requirements.

The committee has been impressed with three important features of the academic audit programme of the UK such as:

- It has been mainly in the universities’ own initiative and is largely a self-directed exercise;
- The individual institution has been given the responsibility for adopting quality improvement programmes, thus retaining its autonomy and initiative; and
- A small external audit unit oversees that the practice is widely adopted in the UK.

The external audit unit is expected to monitor the universities’ quality assurance mechanisms by examining and commenting upon: a) mechanism for quality assurance, improvement and design of courses and programmes of study; b) mechanism for quality assurance in teaching, learning and examination; and c) mechanism for quality assurance by taking in to account:

- external examiners’ report,
- students view on programmes of studies, and
- views of external bodies, professional accreditation bodies, employers and validating institutions.
Accreditation

The UGC has set up the National Assessment and Accreditation Council (NAAC) in 1994, as an inter university centre, with its head quarters in Bangalore. The portfolios of NAAC are:37.

- “Grade institutions of higher education and their programmes
- Stimulate the academic environment and quality of teaching and research in the institutions of higher education
- Promote changes, innovations, and reforms in all aspects of higher educational institutions
- Assist these institutions to realize their academic objectives
- Encourage self evaluation and accountability in higher education”.

Dr. V.S. Prasad, director, NACC, says that the “autonomous quality assurance body under the UGC is seeking to make accreditation mandatory for all 17,000 plus colleges and about 350 universities that make the Indian higher education system, the second largest in the world”, (the first being that of the U.S)38.

By NAAC’s mandate, the process “helps the institution to know its strengths, weaknesses, opportunities, and even threats, through an informed review process; to identify internal areas of planning and resource allocation; the outcomes provide funding agencies objective data for performance funding; initiates institutions into innovative and modern methods of pedagogy; gives them a new sense of direction and identity; provides society with reliable information on quality of education offered; the employers get access to information on the quality of education offered to potential recruits”40.
Now in its 13th year of operation, NAAC is looking at ways to evolve processes that will persuade all institutions to undergo the accreditation process compulsorily, within a reasonable time-frame.” Voluntary” nature of accreditation cannot yield the results on a desired scale in India, says Dr. Prasad. “Looking at the international scenario, the experience of South Africa and Malaysia, to make accreditation mandatory, may suit the Indian context better. Even in countries like the USA and the UK, where accreditation is stated to be ‘voluntary’, it is indeed ‘mandatory’ in an indirect sense, since many funding decisions are directly linked to accreditation outcomes”, he says

The NAAC is all set to make mandatory its assessment of teachers, students, infrastructure, and academic environment in all colleges, universities, and institutions of higher learning. It has also proposed to change the grading system for assessment and accreditation. Speaking to ‘The Hindu’ (The National Daily, Monday, February 12, 2007, p.7), UGC Chairman Sukhadeo Thorat said “the Council has decided to change the grading system from the present ‘nine-point scale’ to a ‘four-grade system’”. In the new model, NAAC would give four grades – A (very good), B (good), C (threshold), and C (not accredited). The new change would be more efficient and confusion free so that instances of extreme bias would be minimised. “The Human Resource Development Ministry would soon finalise a legislation to make assessment mandatory”, the chairman added. “Currently, assessment and accreditation by NAAC is voluntary and a few colleges and universities have opted for it. As many as 3,076 colleges and 130 universities are accredited by NAAC as on February 10, 2007. As many as 82 institutions received accreditation as on the date. Maharashtra tops the list of accredited colleges and universities. Assessment and accreditation helps colleges to get development funds from the UGC and foreign agencies”, Prof. Thorat told in the interview given to The Hindu, on February 10, 2007.
Period of validity

Prof. Sukhadeo Thorat said “the period of validity of accreditation would be five years and after one year, the college may reapply for assessment and accreditation. While assessing, the Council would look into curriculum aspects, teaching-learning and evaluation, infrastructure and learning resources, student support and progression, organization and management and healthy practices”, (The Hindu, February 12, 2007).

Two stages

NAAC Director Prof. V.S. Prasad said “it has proposed two stages for assessment and accreditation, instead of one, now. The first stage included preliminary assessment of the institution’s potential ‘candidacy status’ for undergoing the assessment and accreditation process. At this stage, the NAAC would provide feedback to the applicants regarding specific improvements for reaching the threshold level. The second stage included assessment of various indicators in colleges/universities and giving accreditation”, (The Hindu, February 12, 2007).

Outsourcing proposed

“There are diverse types of university-level institutions and colleges in India and funding is also from various agencies. Hence, it is really a cumbersome task to carry out the large volume of assessment and accreditation exercise and NAAC is proposed to set up outsourcing and maintenance and security services”, said Prof. Govardhan Mehta, Chairman of NAAC, (The Hindu, February 12, 2007).

The NAAC is advocating the formation of regional or specialised accreditation agencies in each state. The state-level agencies will accredit and assess individual colleges, while NAAC would give the templates for assessment, oversee the state agencies and accredit the university bodies.
“This way, NAAC may operate as an umbrella organization for accreditation organization similar to that of the US Council on Higher Education Accreditation (CHEA) or Australian university Quality Agency (AUQA)”

**NAAC’s Credibility in the Global Context**

NAAC is linked with the International Network of Quality Assurance Agencies (INQAA) of higher education as NAAC itself is the main assessment and accreditation agency in India. The said international network has now about 100 plus members and all of them use the same basic sequence of process in reviewing an institution or a programme of higher education with minor modifications. NAAC’s process of accreditation is broad and holistic and its instruments are in line with the international formats. Therefore the credibility of NAAC is ascertained in the international network of agencies. The state governments, the UGC, and such other funding agencies have already declared that they would not provide grants to those universities and colleges that would not prove their worth through the assessment and accreditation by NAAC.

Today, there are two organizations already in action in India. They are:

- The National Board of Accreditation (NBA) of the All India Council for Technical Education (AICTE) with a clientele in professional disciplines like engineering and management, and

- The NAAC with an agenda for judging and assuring quality in liberal arts, sciences and other disciplines.

At present the NAAC is undertaking institutional evaluation which provides an assessment of institutions as a whole, whereas the NBA is evaluating and assessing the programmes offered by institutions under its charge. There are agencies such as the Medical Council of India (MCI), the Pharmacy Council of India (PCI), and the National Council for Teacher Education (NCTE)
which give ‘recognition’ to the institutions under their jurisdiction after inspecting them. However, these agencies do not assess and accredit institutions in a formal sense. NAAC accredits conventional universities offering professional courses such as engineering, medicine, pharmacy, agriculture, and law. It also receives requests from professional colleges/universities. In these cases, NAAC interacts with experts and professional bodies like MCI, AICTE, and NCTE.

In the context of globalization of economies, technologies, communications and job market, there is an increased mobility of students and educated work force across national and international boundaries. Many individual students want their qualifications recognized internationally. Large multinational employers want to be able to move their employees across borders, secure in the knowledge that the employees’ qualifications will be accepted, to employee people for similar jobs in different countries and be assured of consistency of academic and professional competence. This situation is of particular relevance to India, which is one of the largest exporters of trained manpower in the world market.

In the context of higher education becoming an international service, and to facilitate mobility of students and work force, there is a strong case for mutual recognition of the External Quality Assurance (EQA) agencies of at least a few continuous countries or a region of the world or even of the willing partners. The International Network of Quality Assurance Agencies in Higher Education (INQAAHE) should play a lead role in bringing about an accord among the EQA agencies of the world through a set of infinitives including their accreditation of the accrediting agencies and encourage mutual recognition.

Originally, the domestic process for quality assurance adopted by various countries was not intended to serve any international purpose. But now, they have to serve the international stakeholders. The main issue is how
to resolve this conflict of interest of the national quality assurance agencies. Fortunately, most of the EQA agencies across the world, now numbering more than 100, use the same basic sequence of processes in reviewing an institution or a programme with minor modifications. Therefore, it should be possible to formalize the mutual recognition process either following the Washington Accord model or by any other suitable modality.

**The purpose of accreditation**

The purpose of accreditation is to advance the quality and effectiveness of curricula and to make sure that they meet appropriate minimum standards of institutional excellence; it is not to strait jacket educational programmes and enforce a rigid pattern of conformity. The process of evaluation and accreditation gives an institution the opportunity to have its academic performance judged in the court of professional educationists. At present, there is only one general type of accreditation available, ie., institutional in which the total capability of a college or university as a whole is evaluated by specially designed criteria. This method stimulates an institution and its departments to perform self-studies, and encourages the faculty to evaluate and compare its courses and professional activities. “These evaluations which frequently identify deficiencies should also point to remedies, thereby giving guidance for planning to all administrative levels of the institution for attaining the desired standards”\(^{41}\).

Accreditation is principally concerned with the improvement of educational quality throughout the country and the assurance to the public that educational institutions meet established standards. The criteria and procedures which have been developed for accreditation are used in evaluating an institution’s educational effectiveness, defined in the broadest sense to include not only instructional effectiveness, but also effectiveness in research and extension, where these are significant components of an institution’s goals.
Three-dimensional strategy of quality assurance

The level of institutional quality depends not only on an institution's educational processes and resources, but also on the institution's successful use of these processes and resources to achieve the established goals. An institution must engage in continuous study, analysis and appraisal of its purposes, policies, procedures, and programmes, since it has an obligation to all constituents to assure effectiveness in management. In this context, the NAAC has a mandate not only to assess and accredit universities and colleges, but also to involve in a three-dimensional strategy of Quality Assurance – Quality Assessment (QA), Quality Sustenance (QS), and Quality Enhancement (QE).

Fig. 4.2 - Three dimensional strategy of quality assurance

The top priority items for the three states included institution-specific issues such as:

Promoting research culture and consultancy services, improving teaching and learning evaluation with the use of appropriate methodology
and educational aids, improving library stocks and services, enhancing the computer facilities and services and internet connectivity, increasing programme options and innovative programmes, curriculum updating and developing modular curriculum, choice-based credit system, development and maintenance of infrastructure, formalizing feedback mechanism, career guidance services, linkages, involving parents and alumni in the management of institutions.

Action plans have been evolved for each state covering quality sustenance measures, university-college interaction, role of government and national agencies in enhancing quality of higher education, and quality enhancement according to the seven criteria:

- Curricular aspects;
- Teaching, learning, and evaluation;
- Research, consultancy, and extension;
- Infrastructure and learning resources;
- Student progression and support services;
- Organisation and management; and
- Healthy practices

The accreditation system does not work on a reward or punishment framework. One college may or may not get the higher grades. But let us look at it differently. Merely undergoing the process of accreditation is enough for an institution to be aware of quality in the teaching-learning and higher educational process.
Academic Staff Colleges– Role in Quality Improvement

In pursuance of the National Policy on Education (NPE) of 1986 to improve the quality of teaching in the colleges and universities, the UGC established 45 Academic Staff Colleges (ASCs) in 1987, in different universities all over the country. The establishment of these ASCs is one of the most significant steps taken by the UGC, for motivating the teachers in the institutions of higher learning, with the objectives of improving their teaching, which in turn is expected to result in an improvement of quality. The UGC started Academic Staff Colleges during the Seventh Plan Period and it is a unique experiment possibly not tried in any other university system in the world.

The Real Scenario

“Universities in India are increasingly becoming unable to attract bright young men and women to study and research pure science and humanities. All the brilliant youths now want to do medicine, technology and engineering. No one, these days, wants to pursue higher education in science and humanities. As a result, thousands of seats in science and humanities are remaining vacant at the universities and colleges”\(^{43}\). This is a real crisis for the institutions and for the nation. One major reason for this is that engineers and technologists are getting big money while those spending several years studying and researching science and humanities are poorly paid. Another reason is the lean scholarships and fellowships offered by the universities to researchers. “This is true for faculties too. It is hard to get brilliant teachers to the university system because of the low salary and poor infrastructure. Even the best salary in the university system is not enough for a decent living”\(^{44}\).

The quality of India’s higher education has a strong appeal to the quality of higher education in Kerala. the higher education and research sector in Kerala, as the real replica of that of India, is over-regulated and
under-funded. It has been steadily falling behind the world average. Although there are still a few pockets of excellence, the average quality of India’s higher education has been falling steadily. We may be outsourcing our brains, but we are far from educating them to maximum potential. There is something rotten in the state of higher education and research. Kerala’s higher education and research sector, as the real replica of that of India, is over-regulated and under-funded, with professors being burdened with excessive student strength and teaching to the neglect of quality original research.

Most westerners may frankly disbelieve when told that Vice-chancellors are appointed by the government according to its taste. How many bright graduates aim for the higher education sector as their profession of choice as opposed to the last resort, after the civil service, private sector, journalism and the like?

Ideas matter and rule the world. They impart vitality to a society. Universities are the market place of ideas. The long term success of civilizations and countries is due more often to the dynamism and vibrancy of ideas and their steady ascendancy over competing visions. A society in intellectual ferment is fertile ground for progress and advancement. A university, as a repository of scholarship, is dedicated to teaching and research in the spirit of free and critical inquiry, tolerance of diversity, and a commitment to resolution of difference of opinion through dialogue and debate. That is, to the acquisition, criticism, and transmission of knowledge from one generation to the next and to being a centre of creative and innovative learning. In an information society and world, the comparative advantage of the higher education sector lies in its identity as the custodian and manager of knowledge based networks that give it a global mandate and reach. Owing to changes in the higher education sector and under the impact
of globalization, universities across the world are being forced to change from bureaucratic and risk-averse to agile and market-responsive institutions.

Globalization creates winners and losers in education as in trade, investment, and economic growth. Talent is in great demand in the global market. Where appropriate structures of incentives have been put in place to reward talent and enterprise through nimble market-responsive mechanisms, universities are becoming a major source of service exports. Countries where they are both over regulated and undervalued in social status and economic incentives (for example promotions based primarily on seniority of service), as in India, are the source rather than destination for internationally mobile students. Indian students in their tens of thousands are flooding American, Australian, British, and Canadian universities, paying huge fees that could otherwise fund significant upgrade of the quality of higher education back in the country. If we believe in a knowledge economy and society, then we must invest heavily in higher education as the pivot of modern-day knowledge management, or else we will be mere feeder stations in one-way educational traffic to international destinations. ‘Education is expensive, the alternative much costlier.

While India has been faring remarkably well in the global economic market, Indian universities are falling behind in the global marketplace of ideas. The same is the fate of universities in Kerala also. It is true even of the sciences; embarrassingly true of the arts and social sciences. Our system lags not just on global but also on Asian benchmarks. China in particular has made conscious efforts to upgrade its elite institutions to world class centres of excellence. It has recognized the crucial importance of creating and retaining a critical mass of high quality scholars and research institutions, adequately funded and resourced to be able to compete with the world’s best. It is making concerted effort to entice the best of its overseas researchers back by offering them exciting work conditions and the guaranteed right of
exit and re-entry so that they can keep up their scholarly connections with the world’s best universities. “The universities like Tsinghua are encouraged to establish international advisory boards. It is impressive to find Beijing ranked 14th in the world and Tsinghua 28th. The first Indian universities to appear on the list are the IITs, at number 57, followed by the IIMs at number 68. There are nine Asian universities outside of China, Hong Kong, and Japan in the top 200, compared to a meager three Indian. The Jawaharlal Nehru University, New Delhi, just squeaks in joint 183rd while its equitant Australian counterpart, the Australian National University ranks 16th, prior to JNU”. The following table would be an eye opener to India. It gives an X-ray impression of the standard of our universities on the international arena.

Table 4.1

World university Rankings

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<th>Top 20</th>
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<td>Japan</td>
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<td>Australia</td>
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(Each new column subsumes the previous column: a university in the top 20 is also in the top 50, 100, and 200).
Conclusion

In fine, TQM is both a philosophy and a set of guiding principles that represent the foundation of a continuously improving organization. TQM is the application of quantitative methods and human resources to improve the material and services supplied to an organization, all the process within the organization, and the degree to which the needs of the customer are met – now and in the future. It is the integration of all functions, processes, and personnel within an organization in order to achieve the continuous improvement of the quality of its products or services. To be clearer, it is the systematic and the continuous improvement of quality of products, services, and life using all available human and capital resources. In brief, TQM techniques may be well applied in our higher educational institutions for a positive change, thereby we may be a live player on the international higher educational sector.

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