Chapter - 6

Summary of Findings and Suggestions

Defining quality in education in a massive challenge since it deals with the most sensitive creation on earth – the human being. Industrial products are finished goods – take them or leave them. Nothing can be done once they are finished. Education has no such finished product, nor even the graduates. They are on the way “to be”. Education only charges the human propensities to evolve and unfold it till the last breath, a process that covers the human journey from ‘womb to tomb’.

Education is goal oriented. Accordingly, quality of education has been seen with reference to excellence in education, value addition in education, fitness of educational outcome and experience for use, conformance of education output to planed goals, specifications and requirements, defect avoidance in education process and meeting or exceeding customer’s expectation of education. Commitment to quality makes student proud to learn and work for improvement. Quality improvement is a never ending process. Education quality leads to a prospective future.

TQM – Meaning: Total Quality Management (TQM) is a management approach to long–term success through customer satisfaction. In a TQM effort, all members of an organization participate in improving processes, products, services and the culture in which they work. The methods for implementing this approach come from the teaching of such quality leaders as W. Edwards Deming, Philip B Crosby, Armand V. Feigenbaum, Kaoru Ishikawa and Joseph M. Juran.

The origins of Total Quality Management (TQM) are attributed to Japan’s search for improvements. In 1950s anything Made in Japan was regarded in the west as cheap customer goods. But this impression was deceptive as it gave little idea of how Japanese industry excelled in automobile and electronics areas. Japanese industry was receptive of quality message and Japan as a national survival strategy realized the fact that the only way they would be able to afford to import the food and materials they needed, being poor in national resources, was to export goods of high quality at low prices. Thus, quality became the key to achieving this objective.
Juran while in Japan introduced quality spiral’’ concept and suggested that quality was the concern of every department and could not be left to a specialist quality control department alone. Quality ought to be an integral part of management control system. This developed into the notion that prevention rather than detection was the key, and the concept of managerial break through whereby continuous improvement or Kaizen was held to be the ultimate goal.

TQM is viewed in terms of customer requirements or fitness for use. Those employees who do not have direct contract with external customers are encouraged to view their colleagues linked ultimately via a chain of internal customer relationship to the final external customer. In this way employees are made customer driven with aim of continuously improving customer satisfaction. The idea is to build the quality culture.

Strategic Human resource management (HRM) and TQM have much in common. TQM implies the adoption of flexible organization structure, an open management style, emphasis on two way communication, devolution of responsibility and establishment of problem solving team.

TQM is usually implemented in response to perceived competition and aims to win and sustain competitive advantage. It can be seen as a major and long term challenge for organization with far-reaching implications for management style and organizational culture. Quality management has a strong association with transformational change. It is often linked with notion such as high commitment organization, best practice organization, world class company etc.

**TQM Principles :** A core concept in implementing TQM is Deming’s 14 points, a set of management practices to help companies increase their quality and productivity.

1. Create constancy of purpose for improving products and services.
2. Adopt the new philosophy.
3. Cease dependence on inspection to achieve quality.
4. End the practice of awarding business on price alone; instead, minimize total cost by working with a single supplier.
5. Improve constantly and forever every process for planning, production and services.
6. Institute training on the job.

7. Adopt and institute leadership.

8. Drive out fear.

9. Break down barriers between staff areas.

10. Eliminate slogans exhortations and targets for the workforce.

11. Eliminate numerical quotas for the workforce and numerical goals for management.

12. Remove barriers that rob people of pride of workmanship and eliminate the annual rating or merit system.

13. Institute a vigorous program of education and self improvement for everyone.

14. Put everybody in the company to work accomplishing the transformation.

TQM in Education: With changing patterns of education delivery from face to face to online, course content, nature of learner, and organizational structures, the process for its success. Globally various bodies have been established to develop guidelines for quality products and services; and their one community to other, one country to another, provides adequate cause for concerns to the educationists and administrators. Total quality Management (TQM) in Education is a timely tool, which must be clearly understood, adopted and implemented as soon as possible.

Application of TQM will results in:

1. Meeting the expectations of stake holders. Students/Parents/Industries and authorities – University, /Society/nation/world.

2. Continuous improvisation in imparting quality education, with timely corrective measures.

3. Efficient and effective Teaching Learning process.

4. Consistency in improved performance with inbuilt higher Reliability.

5. Refined and tuned monitoring at all stages ensuring expected levels of quality results; bridging the gap between expectations and outcome.

6. Achieving the targets through strategic, stepped periodic approach and synchronization.
7. Best team efforts, without reservations of all concerned and proper motivation/co-ordination.

8. Reward sharing and optimum use of Global Resources.

9. Educational available at reduced cost for tailor made courses in large numbers.

10. Integrated quality to attain higher levels of performance.

11. Establishing a bond between Alumni, College and present students.

**Professional Education System Components:** The basic observable components of a professional institute are the students, the infrastructure i.e., the building and equipment, the teachers, the curriculum, the teaching and learning material, the linkage mechanism with industry and other user system, the management system the support services, the guidance and counseling mechanism, the internal and external evaluation system, the feedback system etc. There are other important components which are called the process components. These includes the way the teachers teach, the way the students learn, activities of students beyond the regular time table, the motivation of faculty and that of students, the attitude of the management, the overall academic climate, the opportunities and encouragement for innovations and development and of research, the openness of communications, the leadership qualities of head of institutions and of departments, the sense of involvement of faculty and staff in providing quality services, the structure of the organization, the quality of team work, the reward and recognition system, the faculty development programme, the appraisal system of faculty and others, the clarity of vision and objectives and the stress laid on internal and external customer satisfaction.

**Quality Issues in Professional Education:** The important quality issues that are often expressed by almost all concerned in various forums can be briefly expressed as follows:

1. How to make the curriculum relevant to the needs of society and industry.

2. How could the management become responsive to the qualitative improvement?

3. How to motivate faculty to play their multiple roles more effectively?

4. How to improve the academic climate of the institute?
5. How to design curriculum monitoring and implementation strategies to develop in students the employable skills?

6. How to establish strong linkage with the employer organizations and network with organizations having seminar interest?

7. How to create an attitudinal change in the system to work for efficiency, productively, and excellence?

8. How to provide self-learning facilities to students and yet make them successful?

9. How can the student’s evaluation system be made more objective, reliable and valid?

10. How to inspire students and teachers to take more initiative in using better teaching learning practices learning and develop innovativeness and creatively?

The above list is not exhaustive. However, assuming that these reflect the total quality, improvement needs of the system, the next step will be to develop methods and strategies to respond to these for total quality management of the system.

Recent development in professional education and advancement in several technologies demands excellence and wonders. There is a change in professional education, due to globalization and communication era. A great deal of strategic planning, laying down of appropriate bench marks and goals are essential. Implementation of TQM techniques with transparencies in administration, admission process ensuring proper matrices, continuous and close monitoring at all levels, will definitely will lead to the expected results. The author has discussed implantation of TQM in engineering institutes elaborately injecting it, to all levels, with assurance of desired results, bridging the gap between expectations and outcome.

Total quality management in professional education, will be ensuring quality in imparting education to students, through the highly experienced and trained faculty, with great concern to satisfaction of stakeholders producing professionals to accept millennium challenges. The quality of students passed out also needs to be accepted globally by industries. A user based support, can be evolved, which can suite the growing needs of the line community and quickly deploy advanced information technologies. The quality infrastructure availability with unlimited free/open access
must be provided to students without any blockage/reservations. The process must be penetrating deeper to students, alumni, parents, teachers, society. This can achieve goals like public image elevation attracting meritorious students and faculty, effective teaching learning process. Increasing levels of funding from industry and R & D agencies, involvement of industry personnel in imparting professional education; emphasis on practical skills. The recent developments like video conferencing will replace thousands of lecturers, travelling lakhs of kilometers by students/teachers, thereby save fuels in tones, Global wealth; reduce pollution and lot of man hours. It provides knowledge based education.

**TQM – the need of the hour**

Although there have been challenges to higher education in the past, these most recent calls for reform may provide a fundamental change in higher education. This change may not occur as a direct response to calls for greater transparency and accountability, but because of the opportunity to reflect on the purpose of higher education, the role of colleges and universities in the new millennium, and emerging scientific research on how people learn. These disparate literatures have not been tied together in a way that would examine the impact of fundamental change from the policy level to the institutional level and to the everyday lives of college and university administrators, faculty and students. Now the time has come to create a second wave of institution building. We need higher educated people who are skilled and who can drive our economy forward. When India can provide skilled people to the outside world then we can transfer our country from a developing nation to a developed nation very easily and quickly.

Most observers agree that Indian higher education, the significant and impressive developments of the past few decades notwithstanding, faces major challenges in both quantitative and qualitative terms. The clearest and boldest statement of this issue can be found in the “Report to the Nation 2006” of the National Knowledge Commission which concludes that there is a quiet crisis in higher education in India. Recognizing this dual challenge, the Indian Prime Minister, Manmohan Singh, severely criticized in a recent speech the serious qualitative deficiencies in Indian higher education while at the same time announcing plans for a major expansion of the system. Reflecting on the findings of a confidential report by the National Assessment and Accreditation Council, which is affiliated to the University Grants Commission
(UGC), he expressed his concern over the fact that two thirds (68%) of the country’s university and 90 percent of its colleges are ‘of middling or poor quality’ and that well over half of the faculty in India’s colleges do not have the appropriate degree qualifications. Knowledge is the base for overall growth and if the nation has to be competitive and to be at par with the globalization pace, we will have to respond to the market forces.

The overall scenario of higher education in India does not match with the global Quality standards. Hence, there is enough justification for an increased assessment of the Quality of the country’s educational institutions. Traditionally, these institutions assumed that Quality could be determined by their internal resources, viz., faculty with an impressive set of degrees and experience detailed at the end of the institute’s admission brochure, number of books and journals in the library, an ultra-modern campus, and size of the endowment, etc., or by its definable and assessable outputs, viz., efficient use of resources, producing uniquely educated, highly satisfied and employable graduates. This view of determining Quality in higher education, popularly termed as the “value-addition” approach, does not measure the competencies students develop through the courses offered. The competencies are recall, understanding, and problem solving. “Recall” amounts to a competency of gaining knowledge by way of reading, viewing, listening, assimilating and demonstrating it when required. “Understanding” is comprehension, which requires explanations and vocabulary development and demonstrating it by giving ideas, predict and evaluate cause and effect. The competency of “problem solving” can be developed by solving text book type of problems and the expertise so developed can be used in handling real-life situations. The students should understand and accept these concepts, and the level of competency they are expected to attain should also be defined in consultation with them.

In this study it has been tried to bring out a clear status of professional education and emergent needs to enhance the quality of professional education. Globalization of professional education services has become an area of key focus for many countries in post WTO scenario. In order to fuel the socio-economic development of the country, higher education is playing a more active role in our country and this requires a paradigm shift in terms of governance and service delivery. Professional education institutions must become more innovative leading to quality institutions of knowledge
production and dissemination. Realizing the importance of higher education, a lot of innovative experiments are being done to improve the performance of this sector. Application of TQM concepts is one of such measures, which will go a long way in revolutionizing the higher education system. This study attempts to theoretically conceptualize TQM in higher education in addition to the problems and perceptions of the stakeholders in the implementation of TQM in selected professional institutions affiliated to Acharya Nagarjuna University.

**Research Methodology**

**Objectives of study:**

The aim of this research study is to examine the implementation of TQM Principles and in its impact on the faculty members, students, and parents’ perception. A conceptual model including behavioural dimensions of these persons satisfaction has been used. The factors included in this cumulative summation are technical, functional, infrastructure, interaction and atmosphere of higher education institutions.

The study mainly concentrates on the TQM Practices in professional colleges affiliated to Acharya Nagarjuna University in Guntur District. It is also aimed at finding out the differences between the Institutions that have been implementing TQM principles and the Institutions that are not implementing TQM Principles. The study specifically aims at following.

1. To study growth and working of Professional Education in India.
2. To study the theoretical frame work relating to TQM principles and their implementation in professional education.
3. To study the opinions of the faculty members on the implementation of TQM principles in selected professional colleges.
4. To measure the deviations between selected performing Institutions and non-performing Institutions through the perceptions of students and parents.
5. Finally, to suggest certain measures for effective implementation of TQM in professional colleges.
Hypotheses:

The following are the Hypotheses of the study.

1. The institutions that are implementing TQM principles are becoming performing institutions.

2. The faculty members, students and the parents prefer performing Institutions and rating performing institutions higher than the other institutions.

Selection of the Sample Institutions:

As stated above, this study relates to the implementation of TQM Principles in professional colleges affiliated to Acharya Nagarjuna University. The professional institutions include the following colleges.

1. Engineering Colleges
2. Pharmacy Colleges
3. Education Colleges
4. MBA Colleges
5. Law Colleges

For the purpose of this study the following colleges were selected from the total list of colleges affiliated to Acharya Nagarjuna University on the basis of the following factors.

1. Priority in the selection of colleges by the students.
2. Final year results of the colleges.
3. College placements.
4. Research contribution.
5. Implementation of TQM principles
Taking the above factors the colleges are divided into performing colleges and non-performing colleges for the purpose these study the research selected two colleges each one on the basis performance second on the basis of non-performance.

1. **Engineering Colleges**
   
   (a) Bapatla Engineering College
   
   (b) GVR College of Engineering & Technology

2. **Pharmacy Colleges**
   
   (a) Chalapathi Institute of Pharmaceutical Sciences
   
   (b) MAM College of Pharmacy, Kesapalli

3. **Education Colleges**
   
   (a) RVR College of Education
   
   (b) MAM College of Education

4. **Management Colleges**
   
   (a) RVR College of Engineering and Management
   
   (b) KC Reddy College of Management

5. **Law Colleges**
   
   (a) AC Law College
   
   (b) JC College of Law

The first colleges stated above from 1 to 4 serial numbers implemented the TQM principles (given in Bold) in the management of their colleges. The remaining institutions from 1 to 4 did not implement the TQM principles. In case of Law colleges, both colleges did not implement TQM principles. As there are only two law colleges affiliated to the university in this group, both colleges were selected.

**Selection of Stakeholders of Colleges :**

After the selection of the colleges the next step is the selection of the stakeholders i.e., faculty, students, and parents.
Table – 6.1
No. of Faculty, Students and Parents
Of professional colleges selected

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Name of the College</th>
<th>Faculty</th>
<th>Students</th>
<th>Parents</th>
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<tbody>
<tr>
<td>1</td>
<td>Bapatla Engineering College</td>
<td>10</td>
<td>20</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>GVR &amp; S College of Engineering</td>
<td>10</td>
<td>18</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>Chalapathi Pharmacy College</td>
<td>8</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>MAM College of Pharmacy</td>
<td>8</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>RVR College of Education</td>
<td>8</td>
<td>22</td>
<td>4</td>
</tr>
<tr>
<td>6</td>
<td>MAM College of Education</td>
<td>8</td>
<td>23</td>
<td>3</td>
</tr>
<tr>
<td>7</td>
<td>RVR College of Management</td>
<td>12</td>
<td>12</td>
<td>3</td>
</tr>
<tr>
<td>8</td>
<td>KC Reddy College of Management</td>
<td>10</td>
<td>12</td>
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<td>9</td>
<td>AC College of Law</td>
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<td>13</td>
<td>3</td>
</tr>
<tr>
<td>10</td>
<td>JC College of Law</td>
<td>8</td>
<td>12</td>
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</tr>
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<td></td>
<td><strong>Total</strong></td>
<td><strong>90</strong></td>
<td><strong>150</strong></td>
<td><strong>30</strong></td>
</tr>
</tbody>
</table>

**Data Sources :**

The data for this study is taken from primary and secondary sources. The secondary sources include various reports from Govt. of India on Education, Reports of UNESCO and other reports on Education. The primary data is collected from records and reports of the respective selected colleges. Four questionnaires were also prepared on scaling basis for analyzing the perceptions of Faculty members, students and parents.

**Statistical Tools used :**

The scales were scored and the data obtained were subjected to statistical analysis using SPSS for windows (Evaluated version 13.0). Mean and SD were calculated separately for all the 5 points in the scale and the total scale to describe the level of perception of Faculty, students and parents regarding TQM in education. The
study employed “t” test for significance of difference between means to test the hypothesis formulated for the study.

**Limitations of the Study:** The following are the limitations of the study.

1. The main limitation of this study is the selection of 10 professional colleges of various types affiliated to Acharya Nagarjuna University. Hence, the results of this study may not be applicable to all the professional colleges in India. However, proper care was taken to see that they represent the census in all respects.

2. It became very difficult for the researcher to get the total data from the selected colleges due to reluctance of management and administrators in providing data. However, adequate care was taken to get the data from other sources including the higher education departments and the University.

**Findings of the Study**

The following are the findings of the study.

1. **Professional Education in India:**

   Higher education is generally understood to cover teaching, research and extension. If we critically analyse the different concepts of higher education, we can list the various roles higher education plays in the society. Higher education is the source or feeder system in all walks of life and therefore supplies the much-needed human resources in management, planning, design, teaching and research. Scientific and technological advancement and economic growth of a country are dependent on the higher education system. Development of indigenous technology and capabilities in agriculture, food security and other industrial areas are possible because of our world-class higher education infrastructure. Higher education also provides opportunities for life long learning, allowing people to upgrade their knowledge and skills from time to time based on the societal needs. The Kothari Commission (1966) listed the following roles of the universities:

   - To seek and cultivate new knowledge, to engage vigorously and fearlessly in the pursuit of truth, and to interpret old knowledge and beliefs in the light of new needs and discoveries:
- To provide the right kind of leadership in all walks of life, to identify gifted youth and help them develop their potential to the full by cultivating physical fitness, developing the powers of the mind and cultivating right interests, attitudes and moral and intellectual values,

- To provide the society with competent men and women trained in agriculture, arts, medicine, science and technology and various other profession, who will also be cultivated individuals, imbied with a sense of social purpose;

- To strive to promote quality and social justice, and to reduce social and cultural differences through diffusion of education; and

- To foster in the teachers and students and through them in the society generally, the attitudes and values needed for developing the ‘good life’ in individuals and society.

There are four predominant concepts of higher education:

(i) **Development of Qualified human resources**: Higher education as the production of qualified human resources. In this view, higher education is seen as a process in which the students are counted as “products” absorbed in the labour market. Thus, higher education becomes input to the growth and development of business and industry.

(ii) **Training and Research**: Higher education as training for a research career. In this view, higher education is preparation for qualified scientists and researches that would continuously develop the frontiers of knowledge. Quality within this viewpoint is more about research publications and transmission of hq academic rigor to do quality research.

(iii) **Educational Administration**: Higher education as the efficient management of teaching provision. Many strongly believe that teaching is the core of educational Institutions. Thus, higher education institutions focus on efficient management of teaching-learning provisions by improving the quality of teaching, enabling a higher completion rate among the students.

(iv) **Participation in the development process**: Higher education as a matter of extending life chances. In this view, higher education is seen as an
opportunity to participate in the development process of the individual through a flexible, continuing education mode.

Although there have been challenges to professional education in the past, these most recent calls for reform may provide a fundamental change in professional education. This change may not occur as a direct response to calls for greater transparency and accountability, but rather because of the opportunity to reflect on the purpose of professional education, the role of colleges and universities in the new millennium, and emerging scientific research on how people learn. Now the time has come to create a second wave of institution building. We need higher educated people who are skilled and who can drive our economy forward. When India can provide skilled people to the outside world then we can transfer our country from a developing nation to a developed nation very easily and quickly.

India’s higher education system is the world’s third largest in terms of students, next to China and the United States. Unlike China, however, India has the advantage of English being the primary language of higher education as compared to China. The main governing body at the tertiary level is the University Grants Commission (India), which enforces its standards, advises the government, and helps coordinate between the Centre and the state. Universities and its constituent colleges are the main institutes of higher education in India. At present in 2011, there are 523 government-recognized Universities in India. Out of them 32 are central Universities, 109 are deemed Universities and 11 are Open Universities. Most of these Universities in India are have affiliating colleges where undergraduate courses are being taught. According to the Department of higher education government of India, 16,885 colleges, including 1800 exclusive women’s colleges functioning under these universities and institutions and there are 4.57 lakh teachers and 99.54 lakh students in various higher education institutes in India. Apart from these higher education institutes there are several private institutes in India that offer various professional courses.

Most observers agree that Indian higher education, the significant and impressive developments of the past few decades notwithstanding, faces major challenges in both quantitative and qualitative terms. The clearest and boldest statement of this issue can be found in the “Report to the Nation 2006” of the National Knowledge Commission which concludes that there is a quiet crisis in higher education in India. Recognizing this dual challenge, the Indian Prime Minister, Manmohan Singh,
severely criticized in a recent speech the serious qualitative deficiencies in Indian higher education while at the same time announcing plans for a major expansion of the system. Reflecting on the findings of a report by the National Assessment and Accreditation Council (NAAC), he expressed his concern over the fact that two thirds (68%) of the country’s university and 90 percent of its colleges are ‘of middling or poor quality’ and that well over half of the faculty in India’s colleges do not have the appropriate degree qualifications. Knowledge is the base for overall growth and if the nation has to be competitive and to be at par with the globalization pace, we will have to respond to the market forces.

According to a study only 25% of engineering graduates are directly employable. Quality of education delivered in most institution is very poor. While India has some Institutions of global repute delivering quality education, such as (Indian Institute of Management) IIMS and (Indian Institute of Technology) IITs, we do no have enough of them. It has very narrow range of course options that are offered and education is a seller’s market, where is no scope of incentive to provide quality education. There is clearly a lack educated educators and teaching is not an attractive profession; it’s a last choice in terms of career. Number of Ph.D.s produced each year is very low and those required by academia is far higher. In fact, at many institutions fresh radiates are employed to teach, leading to poor quality of classroom instruction. Most of the education institution especially in states such as Maharashtra and states in south India are owned by politicians. This Education system which is highly regulated by the government has been set up to benefit politicians.

The growth of higher education in India has been largely guided by the serviceable prerequisite of the economy. After independence, the role of state in planning out a development path and also in building higher education institutes was guided by mutuality of purpose. Most observes of higher education in India feel that performance of higher education in India feel that performance of higher education institutions has been less the satisfactory in terms of access, equity and quality. Now there is an urgent need to work for the development of the educational sector to meet the need of the emerging opportunities, increasing younger generation population and challenges of the 21st century.

Sri Pranab Mukherjee, President of India, recently raised concern on the quality of education, saying that none of the Indian Universities figure in the top 200
institutions of the world. While addressing the students and faculty of central universities, IITs, NITs and other institutions Mukherjee said that institutions should take the university ranking process seriously to boost the morale of the academics and the students. In his own words, “My first and foremost concern is the quality of education in our country.”

The standard of higher education has a direct relationship with the development of a nation and the quality of life of its citizens. Two recent surveys conducted by reputed international organizations have brought out the difference in the standards of education between institutions in India and abroad. None of the Indian universities find any place in the top 200 institutions.

The Higher Educational institutions suffer from large quality variation in so much so that a recent Nasscom - Mackinsey Report has said that not more than 155 of graduates of general education and 25-30% of Technical Education are fit for employment. Since only a small number of Universities and colleges are eligible for funding by UGC and hence monitoring for quality by NAAC for ensuring quality standards set by it, a vast majority of institutions are under no quality university team visits.

Globalization of professional education services has become an area of key focus for many countries in post WTO scenario. In order to fuel the socio-economic development of the country, higher education is playing a more active role in our country and this requires a paradigm shift in terms of governance and service delivery. Professional education institutions must become more innovative leading to quality institutions of knowledge production and dissemination. Realizing the importance of professional education, a lot of innovative experiments are being done to improve the performance of this sector. Application of TQM concepts is one of such measures, which will go a long way in revolutionizing the professional education system.

2. Total Quality Management Principles:

Total Quality Management (TQM) is seen as an effective method that can accomplish the task of higher quality levels and increased productivity. The purpose of Total Quality Management is to implement a process that is long term to bring about continuous improvement initiatives throughout the organization. TQM integrates the fundamental techniques and principles of quality deployment. The primary objective of
TQM is to incorporate quality and integrity into all functions at all levels of the organization.

Quality of education is a multi-dimensional concept, with varying conceptualizations. It includes, within its ambit, the quality of inputs in the form of students, faculty, support staff and the infrastructure, the quality of processes in the form of learning and teaching activity and the quality of outputs in the form of the enlightened students who move out of the system. Quality control is an effective system of ensuring quality, ensuring continuing excellence. Total Quality Management (TQM) is a modern term wider in scope than the total quality control (TQC). TQC considers the role of employees in improving the productivity. But it remains silent about the quality of work life, employee satisfaction and organizational development. TQM, however, is a holistic view and takes into its fold not only ensuring productivity and efficiency but also ensuring individual satisfaction and institutional building and human well being. TQM is not merely preventive, it is pro-active.

The importance of education for the development of excellence, expertise and knowledge leading to overall development in economy cannot be undermined. This has necessitated a sound strategy for the development of higher education in almost all countries of the world. Establishing leadership in the world is possible only when we have a developed system of higher education in which efficiency remains the sole criterion to evaluate performance. The system of higher education is found efficacious in making available to the society a dedicated, committed, devoted and professionally sound team of human resources to decide the future of any nation. This is possible only when the principles of quality management are inculcated in the system of higher education. Total Quality Management (TQM) is inevitably common factor that will shape the strategies of higher educational institutions in their attempt to satisfy various stakeholders including students, parents, industry and society as a whole. This study is a theoretical attempt to explain the application of TQM in professional education. It deals with issues pertaining quality in higher education and moves on to identify variables influencing quality of higher education. It also conceptualizes a model taking the perceptions of the faculty members, students and parents for application of TQM in higher education.

Since the upsurge in interest in quality management issues in higher education in the last few decades, a number of studies have explored relating to the most
important quality issues to students on campuses. In general terms, while academic programs have ranked as important, the issues of relationships with students and faculty staff and the physical campus have typically rated higher. In addition, within the Seventh-day Adventist education system, the quality of students’ life in general, and the spiritual environment in particular, remain important quality issues.

A higher education institution, being an organizational system, receives impacts from and creates impacts on objects, i.e., stakeholders, in its external environment. The crisis that affected the higher education sector in the USA in the 1980s illustrates the significance of the stakeholders and their impact. According to Lozier and Teeter (1996), the sector (faced problems of a decline of quality in baccalaureate graduates; declining state support; rapidly changing technology; costs that were outstripping inflation; growing mandates for accountability by accreditation associations, legislatures, other funding agencies and the public in general; and even growing international competition for students, faculty and research report). Renville defines stakeholders as individuals or groups that pay or contribute to an organization or benefit from it, or both. Renville has identified 10 stakeholders or stakeholder groups of higher education institutions; the student; the employer; the family and dependants of the student; universities and their employees; the suppliers of goods and services to the universities; the secondary education sector; other universities; commercial and industry; the nation, as represented by the government; and tax payers, national and local, Reavill adds that it is important for an institution to determine the extent of stakeholders’ contributions and benefits they received.

The literature survey also revealed barriers to TQM implementation in Indian higher education institutions. Negativity towards TQM from the academic community in the UK was also identified as a predominant barrier. There has also been considerable skepticism about the portability of TQM from the manufacturing industry. Many of the key ideas were just as relevant to universities as they were to manufacturing companies, but `their acceptance by departments is much more likely if they can be woven into the existing traditions of the education system.

Thus, Quality concerns have spread from manufacturing and service businesses to the public sector including public and private educational systems. An increasing number of higher educational institutions are adopting a total quality management (TQM) approach to enhance the institution’s ability to attract and retain students by
implementing processes to continually improve quality. Even though TQM `usage’ can be interpreted as anything from implementing quality practices in administration; to offering TQM courses in various disciplines, the results reflect an expanding awareness of the desire, if not necessity, to improve the quality of the educational process. It is important to recognize that there is a difference between the institutions that claim to be for quality and those that do quality.

3. TQM Implementation and Perceptions of Faculty

TQM is a philosophy and a system of guidelines which lays the foundation for a constantly improving organization. The first part of the study through observation has discussed the application of the TQM approach in the technological and professional educational system. The next part of the study presents the analysis on the perceptions of faculty members’ students and parents on TQM course outline, combining lectures, discussion, a case study and a final project. The amazing rate of progress in all fields of technology necessitates continual examination of instruction programs and an appropriate restructures of the educational system. It is necessary to institutionalize a process which incorporates principles for the identification of customers in the technological and professional educational system (students, industry, etc.), coupled with a procedure for continual improvement of the syllabus and permanent closed-loop control, to assure the quality of both the entire training process and the `products’. Such a process should be based on constant examination of the needs and follow-up of the graduates in their workplaces. The following are the main findings of the study relating to the perception of the faculty members of selected professional colleges.

1. The analysis and observation of the selected professional institutions affiliated to Acharya Nagarjuna University on the implementation of the TQM principles reveals that the majority of the institutions are not implementing the TQM principles in toto. Even the institutions that are implementing the TQM principles are not taking enough interest in the continuation and monitoring of these principles.

2. Of the 10 selected colleges, four colleges viz., Bapatla College of Engineering, Chalapathi Pharmacy College, RVR College of Education and RVR College of Management have been implementing the TQM principles. On the other hand, GVR College of Engineering and Technology, MAM College of pharmacy,
MAM college of Education and KC Reddy College of Management are not serious in the implementation of TQM principles. Both the law colleges selected for the study i.e., AC College of Law and JC College of Law almost ignored TQM principles and their implementation.

3. The faculty of colleges where the TQM principles are implemented strongly felt that the academic environment is prevailing in their institutions. They felt that all the stakeholders combining created a new institutional culture, which is binding them together in achieving the institutional objectives. They are happy with their principal, management and their students. However, some faculty members are not happy with their office and management.

4. On the other hand, colleges that are not showing any interest on the implementation of TQM are unable to maintain their institutions well. The faculty members of these institutions are very unhappy on the management of these institutions. They have no cordial relations with their principal and students and even between them.

5. Further analysis reveals that the colleges that have been implementing TQM principles are able to perform well in terms of results, placements, extra curricular activities, discipline, and better physical maintenance of the institution. The students of these institutions are proud of their institution. On the other hand, the faculty of the institutions where TQM principles are not implemented are interested in leaving their institutions if opportunity comes to them.

3. TQM and Perceptions of Students and Parents:

A professional educational institution, being an organized system, receives impact from and creates impacts on objects, i.e., stakeholders, in its external environment. The crisis that affected the higher education sector in India illustrates the significance of the stakeholders and their impacts. The sector faced problems of a decline of quality in graduates, declining state support, rapidly changing technology, costs that were outstripping inflation, growing mandates for accountability by accreditation associations, legislatures, other funding agencies and the public in general, and even growing international competition for students, faculty and research. The Stakeholders of professional education as individuals or groups that pay or
contribute to an organization, or benefit from it, or both. The stakeholders of professional education include the students the employer; the family and dependents of the student; institution and its employees the suppliers of goods and services to the institutions, government, tax payer and general public. It is important for an institution to determine the extent of stakeholders’ contributions, benefits they received and their perception on the quality of service rendered by the professional institutions. The following are the findings relating to the perception of students and parents.

1. The perceptions of the students on the management, principal, faculty members of their institution reveal that the students are happy only with the institutions where TQM principles are implemented.

2. Majority of the students are happy with Bapatla College of Engineering, Chalapathi College of Pharmacy, RVR College of Education, RVR College of Management. They are considering these institutions as performing institutions. From the point of view of commitment of top management and leadership; student focus; course delivery; communication system; campus facilities; continuous assessment and improvement; value given to the students; majority of the selected students studying in these institutions expressed their happiness and viewed their institutions as superior.

3. The performing institutions viz., the Bapatla College of Engineering, Chalapathi College of Pharmacy, RVR College of Education and RVR College of Management received laurels from all the students. They have given very high scores on the quality of institution implementation of TQM principles and the future of the institutions.

4. The analysis also reveal that the students are not that much happy with GVR College of Engineering, MVM College of Pharmacy, MVM College of Education, KC Reddy College of Management due to their non-performance. In fact, the observation of these institutions, also revealed that the top management and the principals are not taking keen interest in the implementation of TQM principles in their institutions. The students gave very low scores on the quality of education they are receiving and the prestige of the institution where they are studying.

5. While coming to two law colleges the students are very much dissatisfied with the both colleges. They are very unhappy with the quality of education they are
receiving, the management of institution, academic environment, physical facilities and many other issues. The observation of the colleges by researcher physically also reveals that these institutions are not taking adequate care in the implementation of TQM principles.

6. The analysis on the perceptions of parents also reveals that they are rating the institutions which are implementing TQM principles as high. They also opined that these performance institutions are providing quality of education to the students, maintain discipline, providing academic environment showing more placements and achieving academic excellence through results.

Testing of Hypothesis: The testing of hypothesis relating to the perceptions of faculty members, students and parents of the institutions where TQM is implemented and where TQM is not implemented resulted in the following ranking given by them.

Table – 6.2

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Name of the College</th>
<th>Average Score</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>TQM implemented Colleges</strong></td>
<td></td>
<td>Faculty</td>
<td>Students</td>
<td>Parents</td>
</tr>
<tr>
<td>1</td>
<td>Bapatla Engineering College</td>
<td>0.862</td>
<td>0.915</td>
<td>0.872</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Chapalathi Pharmacy College</td>
<td>0.910</td>
<td>0.892</td>
<td>0.911</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>RVR College of Education</td>
<td>0.821</td>
<td>0.791</td>
<td>0.812</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>RVR College of Management</td>
<td>0.753</td>
<td>0.765</td>
<td>0.728</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>TQM not implemented colleges</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>GVR College of Engineering</td>
<td>0.492</td>
<td>0.516</td>
<td>0.498</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>MAM College of Pharmacy</td>
<td>0.514</td>
<td>0.527</td>
<td>0.512</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>MAM College of Education</td>
<td>0.525</td>
<td>0.498</td>
<td>0.538</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>KC Reddy College of Management</td>
<td>0.489</td>
<td>0.431</td>
<td>0.482</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>AC College of Law</td>
<td>0.481</td>
<td>0.422</td>
<td>0.471</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>JC College of Law</td>
<td>0.510</td>
<td>0.523</td>
<td>0.511</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>All College</strong></td>
<td>0.585</td>
<td>0.628</td>
<td>0.634</td>
<td></td>
</tr>
</tbody>
</table>

It can be observed from that the above table the TQM implemented colleges are the performing institutions and hence the faculty members, students and parents gave high ranking to these institutions. On the other hand, the institutions that failed to introduce TQM principles in their institutions got less ranking from the stakeholders.
Thus, the institutions implementing TQM principles are becoming performing institutions and those that are not implementing TQM principles are becoming non-performing institutions.

**Suggestions**

The impetus for improving quality of higher education and scrutiny by the accreditation agencies and the corporate employers is gaining momentum in India. There are many important quality management tools and techniques, fully tried out in the industry, which could be adopted in the field of education, to diagnose a system and identify potentials for improvement. Now people have started realizing that there is no other activity that promises more leverage in the improvement of society than the development of a generation that understands Quality and remains equipped to improve it.

The following are the suggestions offered for the implementation of TQM effectively in the institutions where it was implemented. Specific suggestions were given to the colleges where the TQM principles are not yet implemented to make these institutions strong in all respects. Some general suggestions are also given for the policy makers of all higher education institutions.

**Improving quality of professional education:**

There are some suggestions educational Institutions, for improving quality of professional education.

1. **Towards a Learning Society:** As we move towards a learning society, every human activity will require contributions from experts, and this will place the entire sector of higher education in sharp focus. Although the priorities, which are being assigned today to the task of *Education for All*, will continue to be preponderant, the country will have to prepare itself to invest more on higher education and, simultaneously, measures will have to be taken to refine diversity and upgrade higher education and research programmes.

2. **Industry and Academic Connection:** Industry and Academia connect necessary to ensure curriculum and skills in the line with requirements. Skill building is really
very crucial to ensure employability of academia to understand and make sure good jobs.

3. **Incentives to Teachers and Researchers**: Industry and students are expecting specialized courses to be offered so that they get the latest and best in education and they are also industry ready and employable. Vocational and Diploma courses need to be made more attractive to facilitate specialized programs being offered to students. Incentives should be provided to teachers and researchers to make these professions more attractive for the younger generation.

4. **Mobilization of Resources**: The decline in public funding in the last two plan periods has resulted in serious effects on standards due to increasing costs on non-salary items and emoluments to staff, on the one hand, and declining resources, on the other. Effective measures will have to mobilize resources for higher education. There is also a need to relate the fee structure to the student’s capacity to pay for the cost. So that, students at lower economic levels can be given highly subsidized and fully subsidized education.

5. **Coming of Information Age**: The world is entering into an Information Age and developments in communication, information and technology will open up new and cost-effective approaches for providing the reach of higher education to the youth as well as to those who need continuing education for meeting the demands of explosion of information, fast-changing nature of occupations, and lifelong education. Knowledge, which is at the heart of higher education, is a curtail resource in the development of political democracy, the struggle for social justice and progress towards individual enlightenment.

6. **Student-centered Education and Dynamic Methods**: Methods of higher education also have to be appropriate to the needs of learning to learn, learning to do, learning to be and learning to become. Student-centered education and employment of dynamic methods of education will require form teachers new attitudes and new skills. Methods of teaching through lectures will have to subordinate to the methods that will lay stress on self-study, personal consultation between teachers and pupils, and dynamic sessions of seminars and work shops. Methods of distance education will have to be employed on a vast scale.
7. **World Class Education**: Indian government is not giving priority to the development of standard in education. India should aspire for the international standard in education. Many national universities like in the USA, UK, Australia, etc., allow studies in higher education for foreign students in their countries and through correspondence courses as well. In the same way India Universities of world class education can also offer courses of studies to foreign students taking advantage of the globalization process. To achieve that goal it should adopt uniform international syllabus in its educational institutions.

8. **Action Plan for Improving Quality**: Academic and administrative audit should be conducted once in three years in colleges by external experts for ensuring quality in all aspects of academic activities. The self-finance colleges should come forward for accreditation and fulfill the requirements of accreditation. Universities and colleges should realize the need for quality education and come forward with action plan for improving quality in higher educational Institutions.

9. **Quality development**: Quality depends on its all functions and activities; teaching and academic programs, research and scholarship, staffing, students, building, facilities, equipments, services to the community and the academic environment. It also requires that higher education should be characterized by its international dimensions: exchange of knowledge, interactive networking, mobility of teachers and students and international research projects, while taking into account the national cultural values and circumstances. The level of education and knowledge being imparted by many colleges is not up to mark. Instead of concentrating on quantity, these institutions should concentrate on quality. The approach of doctoral research in social sciences needs to be more analytical and comparative and be related to society, policy and economy. A study conducted on Social Sciences Research Capacity in South Asia showed that the share of the Indian universities in the special articles published in the Economic and Political weekly was only about a 25 percent.

10. **Fair Quality Assurance system**: Colleges and private institutes should set up integral Quality Council and must follow a minimum standard to give degrees. The quality assurance system must be independent of political and institutional interaction and it must have a basis in the legislation. There should be operational, financial and academic autonomy coupled with accountability. There is a need of an
independent accreditation agency with a conglomerate of government, industry, academia, society etc., mean all stakeholders of the education to ensure that the stakeholders particularly the students are not taken for a ride. They should be under control to some extent. It is also important that all institutes of higher learning must make public the acceptability of their courses and degrees. (i.e., the status, recognition and acceptability of their courses by other institutions).

11. The Quality council: A major step in the quality program was taken last year with the establishment of a Quality Council. To date, the Quality Council has been engaged primarily in the following activities:

- Learning more about Quality Management
- Discussing and forming a view on its applicability to Aston
- Reaching a consensus to go forward
- Defining Aston process and ‘owners’
- For each process, considering: What is its purpose?; What is the sub-process?; What are the Critical Success Factors?
- Manage strategic and period plan
- Manage finance
- Provide students’: complete educational experience
- Promote research activity
- Manage staff welfare
- Develop staff capability
- Recruit students to plan
- Manage staff numbers and grade
- Manage Communications
- Manage University estate
- Deliver Library/Information Systems
- Deliver Information Systems
Each of these processes is ‘owned’ by a member of the Quality Council who is responsible for forming a ‘process council’ which acts as a quality improvement group. The ‘owner’ and the process council are responsible for further analysis of the process and for the identification and implementation of prioritized improvement projects. Analysis of the ‘top level’ process is completed by the process owners.

12. Quality awareness and tools and techniques: In order to have the fullest consultation on the work of the Quality Council, a series of ‘Awareness’ courses. These courses may also provide some early education and training for actual, or potential, process council members. They are designed to be highly participating and run as a series of workshops. Quality of education may be put forward for discussion. An important feature of the courses is that they are open to all members of staff. An attempt is made to ensure that each session has a mix of academics and non-academics from different levels within the organizational hierarchy. This is done in the belief that Quality Management can only work through this knife of approach. All members of staff must understand their role in the complete system and be aware of the effects their decision and actions have on others. In addition to the Awareness Courses, specific training in Quality Management ‘tools and techniques’ may be scheduled.

13. Quality function deployment: Informed by reading on quality Management and driven by the need to tackle some issues to do with course design and improvement, there has been some experimentation with the vital Quality Management technique known as Quality Function Deployment (QFD), or ‘the Voice of Customer’. QFD is already used widely in the industrial context, notably in the car industry, as a system to assure that customer needs drive product design and the production process. The following 8 areas may be considered.

1. Students’ want and needs
2. Skills necessary to meet the wants and needs
3. Program and course content to deliver the skills
4. Organization and assessment of ht program
5. Resources- human, financial, physical
6. Implementation of the program

7. Monitoring discrepancies between goals and outcomes

8. Control of the system in changing circumstances

14. Getting involved with TQM: TQM is a philosophy and system for continuously improving the services offered to customers. Now that the technologies of transpiration and communication have replaced national economic systems with a global economy, nations and business that do not practice TQM can become globally non-competitive rather rapidly. The march towards non-competitiveness can be avoided if parents are helped to become TQM practitioners. Therefore, the potential benefits of TQM in professional college are very clear:

1. TQM can help a professional college provide better service to its primary customers—students and employers.

2. The continues improvement focus of TQM is a fundamental way of fulfilling the accountability requirements common to educational reform.

3. Operating a no-fear TQM system with a focus on continues growth and improvement offers more excitement and challenge to students and teachers than a “good-enough” learning environment can provide.

15. Awareness and Commitment for Everyone: The talents of a student will not be developed to their fullest potential unless EVERY member of a teaching – teaching partnership promoters the highest possible quality at each step in the development process. An excellent way to began is with a total staff meting. The meeting can provide: A dynamic overview of TQM elements and potential by one more partners who have experienced both and a clear commitment from the College Board, superintendent, and principal that they will fully support TQM efforts and that they do not except “instant pudding” results.

16. A clear Mission: Managing continuo movement toward progressively higher quality standards depends on defining those standers. If a TQM steering committee is formed in a, it should determine the answer to this Quentin does the have a clear, customer-focused mission statement and a functioning process for divisions and/or departments translating this statement into exit outcomes for graduates? If the answer is “no”, that problem must be addressed with local, state, national, and
employer standards. These standards should emphasize developing students’ abilities to solve real-life problems.

17. A systems planning approach: Traditional education has become excessively compartmentalized. One teacher may provide an English course; another teacher might focus heavily on a student’s knowledge of scientific principles without paying much attention to developing that student’s ability to use English principles in writing a technical support. Subconsciously, the student begins to view English as a “course” instead of as skills to be used. If higher levels of student competence are to be devilled, there must be higher levels of system-wide and cross-department planning for instructional improvement in colleges.

18. Team Replacing Hierarchy: The hierarchical organizations of yesterday are still dominant in too many business and educational institutions. Such organizations tend to promote individual effort “good enough” to satisfy a supervisor who sometimes knows less about how to achieve quality than those he/she supervises do. Cross-department teams can do promote stronger improvement if they are: (a) Given a clear mission and strong authority, (b) Supported rather than hampered by supervisors.

Support is a major element in the success or failure of TQM. If administrators, supervisors, and department chairpersons support task improvement teams, those teams can generate more motivations and improvement than can otherwise be achieved if, TQM cannot achieves its potential. In properly operated TQM programs, administrators and superiors work diligently at: (a) Instituting on clear visions and missions, (b) Coordinating among task or improvement teams; and (c) Supporting the efforts and authority of improvement teams to the highest possible degree.

These are very critical support actions. Unless administrations and supervisors fulfill them properly, task improvement teams can fail because this system weakness.

19. Enabling and Empowerment Replacing Fear: Traditional do-it-to-them evaluation systems by themselves generate fear and lack of initiative. Staff members focus on doing whatever is enough to keep the principal/management happy. However, if volunteer members of empowered improvement teams are
given opportunities to become experts and/or to use experts, that enabling generates excitement and dedication. College should support embers of quality improvement teams with funding and time others. Teams function best if team members are given the background and authority to make informed decisions. Each college should define and implement objectives for a strong focus on being a learning organization.

20. Management by Measurement:

This management by data rather than by opinion allows objective pursuit of the two basic purposes of TQM in education:

(a) Improved learning,

(b) Improved cost effectiveness.

21. Development of Student TQM Skills: In addition to using TQM to improve learning in general, every college should specifically equip its students to understand and use TQM. This is a basic part of schools contributing to readiness for work in the global economy. Whether a school staff decides to integrate learning TQM into existing courses or to provide it as a separate course, it is important that students DO and not just study about TQM.

(a) Form a TQM steering committee that: (1) Develops a plan for supporting the staff in TQM implementation and (2) Builds a positive connection between that committee and the traditional supervisors.

(b) Use advice from consultants and/or from schools that have succeeded at TQM transformation.

22. Creating relevance of curriculum: Identify hard and soft skill requirements for employment; identify generic skills specific skills; develop standards for each of the objectives for all the subjects of study. Also develop standards for practical skills. Curriculum document must include all details and not merely the course content and evaluation scheme. Implementation of credit system is made for allowing self pacing. Credit transfer may also be allowed by having MOUs with different universities and institutions.

23. Management responsiveness: Norms and standards have been fixed by AICTE for creation of infrastructure and appointment of faculty with prescribed
qualifications, NBA of AICTE are also crediting institutes with a view to create external pressure to bring the institutes to a minimum level of acceptance. These external pressures should be utilized by the management to create internal motivation within the institution. Otherwise, external pressures will have only temporary effects particularly to the intangible quality control aspects. Interest of the management and those of the faculty and students have to be seen holistically. For creating a progressive outlook, the management has to be given exposure and ideas. Opportunities and threats have to be realized ideas like composite institutions, diversification of courses, the return on investment on quality both short term and long term, have to be presented through case studies, project proposal, study visits, etc. Falling admission to not so good institutions should be taken as a signal requiring qualitative improvement.

24. **Motivating the faculty**: Recruitment of good faculty and their induction, development, appraisal and reward for retention is a challenge to all the Professional institutions. If the faculty is motivated, lot of enthusiasm will see in the campus for innovation, development, good teaching – learning practices and that of research. Good companies prepare development plan for each of the new recruits. Education and Training institutions need to adopt such policy. Co-alignment exercise to identify individual aspirations in an organization and the organizational goals and objectives be done and a plan be prepared.

25. **Improving institutional academic climate**: Good Teaching learning practices, transparent teacher evaluation and reward system, encouragement for innovations and development work, sponsored research work, and institutional and individual consultancy work would change the total academic climate of an institute for betterment. Conduct of continuing education programs for working professionals is another area which would add to this aspect of improvement. Computation facilities, laboratory and workshop facilities, library facilities need to extended beyond the academic routine hours. Research work will get a boost if research scholars working for higher degrees are made available in the campus. A clear cut policy enabling consultancy work is framed by the institution.

26. **Effective curriculum implementation strategies**: Institutions need to design and develop curriculum implementation strategies such that responsibility and initiative in learning is gradually shifted to students with teachers playing the role of
managing effective and efficient learning and creating opportunities for self learning and self pacing in learning. Faculty development, programme be geared towards improvement of professional skills viz., effective teaching learning methods and innovations, and improvement of knowledge through subject related higher studies.

For bench making best practices teachers need to examine how curriculum is implemented in other professions like in medical profession, specialized institutions like NIFT, Hotel Management Institution, and Management Institutions etc. Where examples for bench marking are not available, institutions need to develop their own modern and standards. For this, teachers would require exposure to modern industry and good training institutes. They also need to be taken for study tours to see for themselves best practices.

27. **Attitudinal change for achieving excellence** : Earlier, reference used to be made on knowledge, skill, and attitudinal (KSA) requirements. Day by day it is realized that the most important aspect of a successful career is that of maintaining positive attitude. That is why, now we refer to acquisition of Attitude. Knowledge and Skill (ASK) by students. While the curriculum document states about knowledge and skill component, it is mostly silent about attitudinal component except that it is inherently embedded in the system. Both teachers and students community needs to realize the need for positive thinking and positive attitude.

Group work, involvement in planning and decision making, appreciation for good work, transparency in the system, creating conducive environment for everyone to contribute and grow, are some of the important factors that would lead to attitudinal development. The management and teachers need to play role models for the students to get inspired.

28. **Linkage with industry and other institutions** : Marketing of product and services of the institute to the society has to be planned and implemented systematically. The best of marketing strategies have to be studied and then individual plans prepared. The responsibility of students’ placement in industry has to be jointly taken up by the Head of the institute, training and placement officers, the heads of departments and the students. For an established institution, the old students well places in industry, must be located and their involvement be planned. Networking
with organizations and institutions be done for mutual benefits. Investment on efforts made in placement of students will pay high dividends to the institutions in the long run.

29. **Self running and self placed learning**: Learning to learn ability is going to be the most essential requirement for employment and to remain in employment at the work place. By proper design of the teaching learning system, the students must be motivated to learn by making their own efforts. Exploratory type teaching learning built around open ended problem solving activities need to practices.

Introduction of credit system in Technical Education which is essential for providing flexibility to students in taking up more or less number of subjects of study depending upon their ability and yet become successful each time will be essential. This will be beneficial to different categories of students taking admission to professional institutions.

30. **Students taking initiative in learning**: Orientation program at departmental level explaining the structure of the programme and positions of the subject in the whole curriculum has to be explained to the students. The relevance of study of the subjects and their components have to the explained by teacher and by using experts from industry. Visit to application industries be planned as early as possible. Students have to be provided with details of the curriculum and are requirements. The skill set required for gainful employment have to be clearly explained to students preferably by involving experts from industry. Guidance and counseling services to students have to be extended. Teaching learning should be planned to include class room interactions, emphasis on practical work, independent study, group projects assignment, library study, feedback etc.

31. **Effective evaluation system**: Student evaluation system must be valid, reliable, and should be objectively designed. Emphasis should be on assessing the higher order cognitive skills like ability to think and apply, ability to analyse and synthesize and of solving problems. Evaluation of students other personality trials like ability to work in group and contribute, ability to self learning and communicating etc., need also be taken care of in making assessment of students. Multiple evaluation tools like objective and short answer type tests, quiz, seminars, group discussions, and project report preparation and presentation etc., may be
included in student evaluation. At the university or board of examination level, there is need for developing model question papers, question banks and table of specifications for setting question papers in various subjects. On the basis of this, analytical plan can be prepared for each of the activities at management level, teacher’s level and at the level of students. A monitoring mechanism must be included to evaluate progress and providing feedback.

**Suggestions for Further Research**

The implementation of Total Quality Management (TQM) itself is new in educational sector in India. After globalization process few professional higher learning institutions have started implementing TQM principles in India after going through the experiences of the Institutions of western countries. Professional institutions are today may not be able to reach to the higher level or may not be able to compete with the world class institutions unless they implement TQM principles in their institutions also. Since the this area is still in initial stages the research students of social sciences may put more of their attention on this important strategic area. Further research may be continued on the following grounds.

1. Impact of TQM implementation in all service sectors.

2. Finding gap between institutions which implemented TQM and the institutions that have not considered TQM implementation in service sector with particular reference to all levels of Educational Institutions.

3. Research in the area of barriers in the implementation of TQM in educational institutions and how to remove the problems in the implementation of TQM.