CHAPTER – I

INTRODUCTION

1.1 TOTAL QUALITY MANAGEMENT

Quality has different definitions in various perspectives. From the view point of consumers, Quality is “fitness for use”. Based on Manufactures, it is defined as “conformance to requirements”\(^1\). According to Deming, Quality is “a predictable degree of uniformity and dependability at low cost and suited to market”\(^2\). Quality has a strong link with the profitability of the firms. When quality is conformed and improved, it enhances the profitability of the organisation as a result of the process chain.

**FIGURE 1.1** gives a clear picture of Quality Management (QM) Process in Organisations\(^3\).

**FIGURE 1.1**
QUALITY MANAGEMENT PROCESS

It can be inferred from the figure that when the product or service achieves conformance, it leads to improved profitability by minimising waste, lowering the costs and enhancing the asset utilisation. Also, it is felt that it enhances value, market share and revenue growth.

Though the term \textit{QM} does not have a formal definition, it is understood that it is an integration of all functions of a business to achieve high quality of products through continuous improvement efforts of all employees. \textit{QM} emphasises the ideas of working constantly toward improved quality. Quality revolves around the concept of meeting or exceeding customers’ expectation which can be applied to the product and service. Achieving high quality is a continuous process which should coincide with ever-changing business environment. \textit{QM} has its role in every business processes, environment and people. The workforce is expected to be involved in a shared commitment toward improving quality.

History of quality and \textit{QM} goes back to the period of Frederick Winslow Taylor. In 1920s the importance of Scientific Management was practised in many industrial plants. It was named as reliability engineering as it moved quality control toward building quality into the design and production of the product. As time passed and the nature of demand-supply equilibrium changed, quality become more customer-centric during 1950s.

Total Quality Management (\textit{TQM}) is a philosophy that includes customer focus, total participation and continuous improvement as the foundations and aims zero defects. \textit{TQM} has been widely used in Manufacturing, Education, Government and Service Industries, as well as NASA space and science programmes. Total
Quality provides an umbrella under which everyone in the organisation can strive and create customer satisfaction at continually lower real costs.

Quality and **TQM** can be defined as directing (Managing) the whole (Total) production process to produce an excellent (Quality) product or service. **QM** is focused not only on Product/Service Quality (**SERVQUAL**), but also the means to achieve it. It uses quality assurance and control of processes, as well as products to achieve more consistent quality.

**TQM** had its first success in Japan during the Post-World War II rehabilitation. It was introduced by an American Statistician, Dr. W. Edwards Deming, who first visited Japan in the late 1940s to work in their post-war census. In the early 1950s, **QM** practices developed rapidly in Japanese plants, and become a major theme in Japanese Management philosophy, such that, by 1960, quality control and management has become a national pre-occupation. By the late 1960s/early 1970s Japan’s imports into the USA and Europe increased significantly due to its cheaper, higher quality products, compared to the Western counterparts.

### 1.2 ROLE OF TOTAL QUALITY MANAGEMENT IN INDUSTRIES

The Report of Department of Trade & Industry in 1982, states that Britain’s world trade share was declining and this was having a dramatic effect on the standard of living in the country. As sequel to the intense global competition and the subsequent decline in the country’s economic performance has led the industries to believe that the decline in quality has brought down their global status. The British Standard (**BS**) 5750 for quality systems had been published in 1979 and in 1983 the National Quality Campaign was launched, using **BS** 5750 as its main theme. The aim
was to bring to the attention of industry the importance of quality for competitiveness and survival in the world market place. Since then, in 1987, the International Standardisation Organisation (ISO) 9000 has become the internationally recognised standard for QM systems. It comprises a number of standards that specify the requirements for the documentation, implementation and maintenance of a quality system.

Now TQM has become part of a much wider concept that addresses overall organisational performance and recognises the importance of processes. There is also extensive research evidence that demonstrates the benefits from the approach.9

Many countries in the world have made an attempt to enhance the quality in their products and services. Having realised the importance of quality, quality control, quality assurance, these countries have evolved a strategy to change the mindset of their human resource so as to enable them to permanently set their vision towards the achievement of total quality in each and every activities. Having set this as an objective, the industries are looking for human resource with an attitude for practising TQM strategies.

In this connection, it is felt that there is an immediate need to find out the preparedness of Higher Learning Institutions (HLIs) for the development of human resource in this direction.

1.3 TOTAL QUALITY MANAGEMENT IN EDUCATION AND HUMAN RESOURCE DEVELOPMENT

Today, competitive environment demands better quality in education. Only those Institutions which can impart quality education on a continuous basis shall be in
a position to compete in the global market. Improving the quality of their education has, therefore, become a primary concern of countries the world over. It is said that the quality of a nation depends upon the quality of its citizens which, in turn, depends on the quality of their education. 

Education is an indispensable asset of every individual, every community and every nation. It can accelerate the march towards a better and higher quality of life. Education alone can convert the dream of peace, freedom and social justice into a practical reality. The National Educational scenario in India, as envisioned in its different education policies, is a key instrument in ensuring access, equity, quality and relevance of education at all levels. Education is an instrument of integrated human development. The key objectives of Education include:

- To develop one’s cognitive, conative and affective abilities;
- To develop critical and higher order thinking skills;
- Capacity building of Students so that they meaningfully participate in major activities of the society, leading towards healthy and holistic development of society and nation;
- To realise the ideals enshrined in UNESCO report “Learning: The Treasure within” wherein emphasis has been laid on four major pillars of education, viz., Learning to know, Learning to do, Learning to live together and Learning to be. Education in this sense implies continuous evolution.

Human Resource Development (HRD) is the process of enabling people to make things happen. It deals both with the process of competency development in people and creation of conditions (through public policy, programmes and other interventions) to help people apply these competencies for their own benefit and for that of others.
The Oxford Dictionary of Human Resources Management defines: “HRD is the process of encouraging employees to acquire new skills and knowledge through various training programs, courses, and learning packages. For the organization, the aim is to build competency amongst its employees, which will contribute to achieving the overall business objectives. For the individual, development provides opportunities that might be beneficial in four ways: one, it makes the employee more valuable to the organization and thereby improves job security; two, it enhances career opportunities within the organization; three, it increases an individual’s employability outside the organization because of his or her broader skill/competency base; and four, if it broadens the scope and responsibility of work, it can raise the intrinsic reward employees derive from their jobs”\textsuperscript{14}.

The current approaches to HRD incorporate many of the key dimensions of the earlier approaches and some aim to fuse the economics-dominated and social welfare-dominated concepts. A range of international agencies regularly surveys the world development situation. There has been some progress in areas such as Life Expectancy, Health, Food and Nutrition, Education, Income and Child Mortality. Key assumptions and premises concerning HRD are:

- **HRD** is a complex and multifaceted concept. It is also a continuous process. It requires sensitivity to changing needs in order to set priorities accordingly.

- **HRD** is both a means and an end. A balance should be maintained between the two. If a choice between these two aspects has to be made, it should be in treating HRD as an end rather than as a means, since ultimately what is important are human satisfaction and the quality of life.
Developing people is the essence of any HRD effort and it is an important goal of all other development activities (plans, policies, programmes, establishment of new structures, mechanisms). All forms of development (economic, technological, ecological, agricultural, industrial, etc.) are ultimately meant to serve people in terms of improving their happiness through better quality and standards of life.

HRD also holds the key for economic development through enabling people to become more productive.

In the last few decades some countries have developed well, economically, technologically and in human terms. Life expectancy has increased, incidence of illness reduced and starvation has nullified.

The world is becoming a global village with improvements in technology, trade, mobility and communications. Increasing globalisation and significance of information technology have thrown up new opportunities for some countries and challenges for others, to cope with the changing world and compete in the open market with the industrially developed countries.

There is an increased understanding of the strategic role of women in human resource and economic development.

There is an increased understanding of the linkages that exist between literacy, basic education, health, nutrition, sanitation, environment, population growth, technology, role and status of women, unemployment, quality of human resource as indicated by the composition of their capabilities (Knowledge, Attitude and Skill-Base)\textsuperscript{15}. 
1.4 TRADITIONAL THEORIES OF EDUCATION

For the better understanding the role of education in the development of human resources, it is necessary to revisit some of the major theories of education.

1.4.1 Plato's View of Education

According to Plato (427-347 BC), the human soul consists of three parts, namely, the "Appetitive Part", the "Spirited Part" and the "Rational Part". The virtue required in the Appetitive Part is Temperance; the virtue required in the Spirited Part is Courage; and the virtue required in the Rational Part is Wisdom. There are three social classes in the nation corresponding to these three parts of the soul. The mass of citizens, including tradesmen, artisans, and farmers, form the lower class, corresponding to the Appetitive Part of the soul. Public officials (guardians) form the middle class, corresponding to the Spirited Part of the soul. And rulers form the upper class, corresponding to the Rational Part of the soul. For Plato, what brings people closer to the world of ideas is education. Plato's image of an ideal person was that of "one who loves wisdom" (or a philosopher) and that of "one who is harmonized" i.e. a person whose mind and body are harmonized, possessing the four virtues of wisdom, courage, temperance, and justice. The purpose of education would be to build an ideal nation, where the idea of the good is embodied.

1.4.2 The Christian View of Education in the Middle Ages

In the Age of ancient Greece, education pursued the goal of developing good people who would serve the society, whereas in the Christian society of the Middle Ages, education aimed at cultivating people who would live the Christian ideal. The image of the ideal medieval person was that of a "religious person" who would love and respect God, while loving his neighbours. Strict Education was given, especially
in monasteries, to attain a perfect spiritual life, with the virtues of purity, honest poverty, and submission. The purpose of this education was to cultivate people to become good and to prepare them for life after death\textsuperscript{17}.

**1.4.3 View of Education in the Renaissance**

In the Age of the Renaissance, a human-centred world view, which valued human dignity, came into being, overthrowing the God-centred world view, has regarded obedience and abstinence as virtues. Desiderius Erasmus (1466-1515)\textsuperscript{18} was the main representative of that new, humanistic education. He asserted that the purpose of education is to teach people, who were originally free, to attain the complete development of their human nature and to acquire a rich individual culture. He emphasised the humanistic aspect of culture, such as literature, fine art, and science. Emphasis was also given to physical education, which had been neglected in the Middle Ages. The image of the ideal person in the Renaissance Age was an "all-round man of culture", whose mind and body are harmoniously developed. Erasmus' idea of the return to the original human nature was inherited by Joharm A. Comenius and Jean Jacques Rousseau.

**1.4.4 Comenius' View of Education**

For Joharm A. Comenius (1592-1670)\textsuperscript{19}, the ultimate purpose of human life is to become united with God and to obtain eternal bliss in life after death, with life here on earth being the preparation for life after death. For that purpose, everyone should

- i. know all things,
- ii. become a person who can control things oneself, and
- iii. become like the image of God.
He advocated the necessity of three kinds of education: Intellectual Education, Moral Education, and Religious Education. To teach "all things to all men" was the theme of Comenius' theory of education, which was called pansophia.

Comenius considered that the talent to realise the goals of education is naturally inherent in people, and it is the role of education to bring out this natural gift, that is, "nature." Comenius said that, fundamentally, parents are responsible for education, but should they become unable to do it, schools would become necessary to replace them. According to Comenius, the image of the ideal person was that of a "pansophist," or a person who has learned all knowledge concerning God, nature, and human beings. The purpose of education is to raise practical Christians who have learned everything knowable, and to realise the peaceful unification of the world through Christianity.

1.4.5 Rousseau's View of Education

In the Age of the Enlightenment, Jean-Jacques Rousseau (1712-1778) wrote an Educational novel entitled "Emil" claiming that "God makes all things good; man meddles with them and they become evil". Therefore, he insisted on educating children in a natural way. He asserted that, since man possesses an inherent "natural goodness," his “nature” should be developed as it exists originally. Education, as advocated by Rousseau, aims to develop people naturally through eliminating factors that obstruct the development of their natural gifts, such as indoctrination by established culture and by moral and religious teachings. In actuality, however, "natural man" in the state of nature would not be well suited to the existing society. He thought, however, that in the ideal republican society, the individual as "natural
man" and the individual as citizen of society would get along well. Thus, he also advocated the necessity to educate people to become members of society.

The image of the ideal person in Rousseau's theory of education was that of a "natural man", and the purpose of education, in his view, was to nurture "natural man" and realise the ideal republican society, in which "natural man" would become citizen. Rousseau's theory of education was inherited by Immanuel Kant, Johann H. Pestalozzi, Johann F. Herbart, John Dewey, and others.

1.4.6 Kant's View of Education

Immanuel Kant (1724-1804) said that "man is the only being who needs education and that "Man can only become man by education", advocating the importance of education. According to Kant, the mission of education is to develop people's natural gifts in a harmonious way and to cultivate those who can act freely while following moral laws. Kant's view of education was influenced by Rousseau. Also, Kant asserted that education should not aim at adjustment to any particular society; rather, it should aim, more generally, at the perfection of humankind. He also said that education must be cosmopolitan.

On the other hand, Kant said that human beings have a radical evil in their nature. According to him, evil comes into being when moral law is subordinated to self-love. Therefore, Kant said that, through inner conversion, one should come to place moral law above self-love, and that duty so orders it. Respect for morality, trust in science and reverence for God characterise his views on education and on humankind. For Kant, the ideal image of a human being is that of a "good man", and
the purpose of education is to perfect human nature of humankind as a whole, thereby establishing everlasting international peace.

1.4.7 Pestalozzi's View of Education

Under the influence of Rousseau, Johann H. Pestalozzi (1741-1827) advocated education in conformity with "nature" and sought to liberate human nature, or the noble nature inherent in people. He held that when people based themselves upon something simple and pure, they come to do good by intuitively apprehending fundamental principles. He also held that education starts from maternal love in the family, and asserted that family education forms the basis of education.

Pestalozzi said that there are three fundamental forces forming human nature, namely, mental power, heart power, and technical power; and these three, he considered, are correspond to mind, heart, and hand. According to him, education of the mind is education of knowledge, education of the heart is moral and religious education, and education of the hand is the education of technique (including Physical Education). The internal power that unites these powers is love. Love is the basis of heart power and the driving force of moral and religious education.

The image of the ideal person advocated by Pestalozzi was that of a person in whom the three fundamental powers are harmoniously developed, in other words, a "whole man". He advocated the education of the "whole man" centred on love and faith. The aim of education was to cultivate human nature and build a moral and religious nation and society.
1.4.8 Froebel's View of Education

Friedrich Froebel (1782-1852) followed Pestalozzi and further systematised Pestalozzi's view of education. According to Froebel, nature and humans are unified by God and move according to God's law. Divine nature constitutes the essence of all things, and the mission of all things is to express, reveal, and develop such a nature. Therefore, people should manifest in their lives the divine nature inherent within them, and education should guide people in that direction. He wrote that "The free and spontaneous representation of the divine in man, and through the life of man, which, as we have seen, is the ultimate aim and object of all education, as well as the ultimate destiny of man".

Froebel especially emphasised the importance of child education and family education. Froebel's basic position concerning education was that the place to develop children in a natural way is the home, where the parents are the teachers. Like Pestalozzi, he emphasised the role of the mother. He asserted that kindergarten is a necessary supplement to family education and became the founder of the kindergarten. The "natural man" with a good nature advocated by Rousseau was, for Pestalozzi, a "whole man" with noble human nature, and for Froebel the image of the ideal person was that of a "whole man with divine nature".

1.4.9 Herbart's View of Education

Johann F. Herbart (1775-1841) systematised pedagogy as a science. In doing so, he incorporated ethics and psychology into pedagogy, whereby he established the aim of education from ethics and the means of education from psychology. First, following Kant, Herbart considered a "good man" to be the image of the ideal person, and the "cultivation of moral character", the goal of education.
Next, he pursued the method of education, proposing that what forms the foundation of human spiritual life is presentations in mind: by cultivating the circle of thought, or a collection of presentations, a person's moral character can be cultivated. In other words, he advocated building moral character through teaching knowledge.

Herbart pointed out the importance of instruction in the formation of representations, and explained the process of instruction. According to the Herbartian school, which later revised Herbart's theory, the process of instruction consists of five stages: preparation, presentation, comparison, integration, and application.

1.4.1. Dewey's Theory of Education

In the late 19th century, a pragmatic view of life, which placed behaviour at the centre of human life, was born in the United States. John Dewey (1859-1952) advocated instrumentalism, asserting that the intellect is a tool useful for behaviour and that thinking develops in the process of a person's effort to control the environment.

Stating that "Education is all one with growing; it has no end beyond itself", Dewey argued that no kind of purpose should be set in advance for education, but instead, education should be regarded as growth. According to him, "Education consists primarily of transmission through communication", and "Education is a constant reorganising or reconstructing of experience". This transmission should be achieved through the medium of the environment rather than directly from adults (teachers) to children, he said. Through such education, society develops. What Dewey intended to achieve was a kind of practical, Technical Education aimed at the
reconstruction of society. The image of the ideal person, in Dewey's theory of education was that of an active man\textsuperscript{25}.

1.4.11. The Communist View of Education

Marx and Lenin sharply criticised the kind of education conducted in capitalist society. According to Marx, in capitalist society the educational policies are intended to keep people in ignorance. Teachers are productive labourers who belabour children's heads and work to enrich the school proprietor\textsuperscript{26}.

According to Lenin, capitalist education is an "instrument of the class rule of the bourgeois", the goal of which is to raise up "docile and efficient servants of the bourgeoisie" and "slaves and tools of capital". In contrast to education in capitalist society and in socialist society, according to Lenin, “The schools must become an instrument of the dictatorship of the proletariat”. He also said that teachers must become the soldiers who instil the spirit of communism into the masses of workers.

The purpose of communist education is stated in the preamble of the "Fundamentals of National Education Act" (1973): "The objective of National Education in the USSR is to raise a highly cultivated all-round, fully developed, active architect of communist society who has been raised under Marxist-Leninist thought, with respect for soviet law and the socialist order, and with communistic attitude toward labour". In other words, the purpose of communist education is to raise dedicated people for the construction of communist society. The image of the ideal person is "the all-round, fully developed human being"\textsuperscript{27}. 
1.4.12. The Democratic View of Education

Ideas on education in democracy are based on democratic thought. Dewey's theory of education played a major role throughout the first half of the 20th century. The "Report of the United States Education Mission to Japan" represents the educational ideas of democracy after World War II.

Democracy is not a cult, but a convenient means through which the emancipated energies of men may be allowed to display themselves in utmost variety. Democracy is best conceived not as a remote goal, however radiant, but as the pervasive spirit of every present freedom. Responsibility is of the essence of this freedom. Duties keep rights from cancelling each other out. The test of equal treatment is the taproot of democracy, whether it is of rights to be shared or of duties to be shouldered.

The nature of the democratic education has included a system of education for life in a democracy will rest upon the recognition of the worth and dignity of the individual. It will be so organised as to provide educational opportunity in accordance with the abilities and aptitudes of each person. The success of education in a democracy cannot be measured in terms of uniformity and standardisation. Education should prepare the individual to become a responsible and cooperating member of society. The purpose of democratic education, therefore, is the perfection of character and the nurturing of responsible members of society. Its image of the ideal person is that of a "democratic person of character".

1.5 MODERN THEORIES OF EDUCATION

Historically, American Education has served both political and economic needs, which dictated the functions of education. Today, sociologists and educators
debate the function of education. Three main theories represent their views: the Functionalist Theory, the Conflict Theory, and the Symbolic Interactionist Theory.

1.5.1 The Functionalist Theory

The functionalist theory focuses on the ways that universal education serves the needs of society. Functionalists point to the ironic dual role of education in both preserving and changing culture. Studies show that, as students’ progress through College and beyond, they usually become increasingly liberal as they encounter a variety of perspectives. Thus, more educated individuals are generally more liberal, while less educated people tend toward conservatism. Moreover, the heavy emphasis on research at most HLIś puts them on the cutting edge of changes in knowledge, and, in many cases, changes in values as well. Therefore, while the primary role of education is to preserve and pass on knowledge and skills, education is also in the business of transforming them.

1.5.2 The Conflict Theory

The Conflict theory witnesses the purpose of education as maintaining social inequality and preserving the power of those who dominate society. Conflict theorists examine the same functions of education as functionalists. Conflict theorists point to several key factors in protecting their position. Conflict theorists see education not as a social benefit or opportunity, but as a powerful means of maintaining power structures and creating a docile work force for capitalism.

1.5.3 The Symbolic Interactionist Theory

Symbolic Interactionist limit their analysis of education to what they directly observe happening in the classroom. They focus on how teacher expectations influence students’ performance, perceptions, and attitudes.
1.6 TOTAL QUALITY MANAGEMENT IN HIGHER LEARNING INSTITUTIONS – GLOBAL VIEW

Today, we are living in an epoch which is being operated by new knowledge generated and information communicated through internet. Knowledge has now become a tool for development. This has become possible through the brilliance of human mind produced by the system of Higher Education (HE). HE is regulated by multiple authorities. In India, the University Grants Commission (UGC) regulates Universities and Colleges which are teaching general subjects. It has the power to determine and maintain standards and disburse grants. Technical Education is regulated by the All India Council for Technical Education (AICTE).

HE is defined by Encyclopedia Britannica as "All types of education (Academic, Professional, Technological, or Teacher Education) provided in Institutions such as Universities, Liberal Arts Colleges, Technological Institutions, and Teachers’ Colleges, for which the basic entrance requirement is

- Completion of secondary education;
- The entrance age is about 18 years; and
- In which the courses lead to giving of a named award (degree, diploma, & certificate of Higher Studies)."

The World Conference on HE (1998) which was held in Paris was unanimous in considering that “a renewal of HE is essential for the whole society to be able to face-up the challenges of the 21st century, to create and advance knowledge, and to advocate and train responsible, enlightened citizens and qualified specialists, without whom no nation can progress economically, socially, culturally, or politically.”

TABLE 1.1 depicts the Times Higher Education (THE) World University Rankings 2012-2013.
TABLE 1.1
Times Higher Education World University Rankings 2012-2013

<table>
<thead>
<tr>
<th>World Rank</th>
<th>Institution</th>
<th>Country / Region</th>
<th>Overall score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>California Institute of Technology</td>
<td>United States</td>
<td>95.5</td>
</tr>
<tr>
<td>2</td>
<td>University of Oxford</td>
<td>United Kingdom</td>
<td>93.7</td>
</tr>
<tr>
<td>2</td>
<td>Stanford University</td>
<td>United States</td>
<td>93.7</td>
</tr>
<tr>
<td>4</td>
<td>Harvard University</td>
<td>United States</td>
<td>93.6</td>
</tr>
<tr>
<td>5</td>
<td>Massachusetts Institute of Technology</td>
<td>United States</td>
<td>93.1</td>
</tr>
<tr>
<td>6</td>
<td>Princeton University</td>
<td>United States</td>
<td>92.7</td>
</tr>
<tr>
<td>7</td>
<td>University of Cambridge</td>
<td>United Kingdom</td>
<td>92.6</td>
</tr>
<tr>
<td>8</td>
<td>Imperial College London</td>
<td>United Kingdom</td>
<td>90.6</td>
</tr>
<tr>
<td>9</td>
<td>University of California Berkeley</td>
<td>United States</td>
<td>90.5</td>
</tr>
<tr>
<td>10</td>
<td>University of Chicago</td>
<td>United States</td>
<td>90.4</td>
</tr>
<tr>
<td>11</td>
<td>Yale University</td>
<td>United States</td>
<td>89.2</td>
</tr>
<tr>
<td>12</td>
<td>ETH Zürich - Swiss Federal Institute of Technology Zürich</td>
<td>Switzerland</td>
<td>87.8</td>
</tr>
<tr>
<td>13</td>
<td>University of California Los Angeles</td>
<td>United States</td>
<td>87.7</td>
</tr>
<tr>
<td>14</td>
<td>Columbia University</td>
<td>United States</td>
<td>87.0</td>
</tr>
<tr>
<td>15</td>
<td>University of Pennsylvania</td>
<td>United States</td>
<td>86.6</td>
</tr>
<tr>
<td>16</td>
<td>Johns Hopkins University</td>
<td>United States</td>
<td>85.6</td>
</tr>
<tr>
<td>17</td>
<td>University College London</td>
<td>United Kingdom</td>
<td>85.5</td>
</tr>
<tr>
<td>18</td>
<td>Cornell University</td>
<td>United States</td>
<td>83.3</td>
</tr>
<tr>
<td>19</td>
<td>North-western University</td>
<td>United States</td>
<td>83.1</td>
</tr>
<tr>
<td>20</td>
<td>University of Toronto</td>
<td>Canada</td>
<td>82.6</td>
</tr>
</tbody>
</table>


Since society is increasingly becoming knowledge-based, HE and research now act as essentials of components of cultural, socio-economic and environmentally sustainable developments of individuals, communities, and nations. The development of HE, therefore, even in the 21st century, feature among the highest national priorities throughout the world. For the first time since India’s Independence, it is felt that there is a strong link exists between the expansion of the HE system and economic growth and social development of the country.
TABLE 1.2 depicts the Quacquarelli Symonds’ World University Rankings 2012-2013.

**TABLE 1.2**  
Quacquarelli Symonds’ World University Rankings 2012-2013

<table>
<thead>
<tr>
<th>World Rank</th>
<th>Institution</th>
<th>Country / Region</th>
<th>Overall Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Massachusetts Institute of Technology</td>
<td>United States</td>
<td>100.0</td>
</tr>
<tr>
<td>2</td>
<td>University of Cambridge</td>
<td>United Kingdom</td>
<td>99.8</td>
</tr>
<tr>
<td>3</td>
<td>Harvard University</td>
<td>United States</td>
<td>99.2</td>
</tr>
<tr>
<td>4</td>
<td>University College London</td>
<td>United Kingdom</td>
<td>98.7</td>
</tr>
<tr>
<td>5</td>
<td>University of Oxford</td>
<td>United Kingdom</td>
<td>98.6</td>
</tr>
<tr>
<td>6</td>
<td>Imperial College London</td>
<td>United Kingdom</td>
<td>98.3</td>
</tr>
<tr>
<td>7</td>
<td>Yale University</td>
<td>United States</td>
<td>97.5</td>
</tr>
<tr>
<td>8</td>
<td>University of Chicago</td>
<td>United States</td>
<td>96.3</td>
</tr>
<tr>
<td>9</td>
<td>Princeton University</td>
<td>United States</td>
<td>95.4</td>
</tr>
<tr>
<td>10</td>
<td>California Institute of Technology</td>
<td>United States</td>
<td>95.1</td>
</tr>
<tr>
<td>11</td>
<td>Columbia University</td>
<td>United States</td>
<td>94.7</td>
</tr>
<tr>
<td>12</td>
<td>University of Pennsylvania</td>
<td>United States</td>
<td>94.5</td>
</tr>
<tr>
<td>13</td>
<td>ETH Zürich - Swiss Federal Institute of Technology Zürich</td>
<td>Switzerland</td>
<td>92.8</td>
</tr>
<tr>
<td>14</td>
<td>Cornell University</td>
<td>United States</td>
<td>92.1</td>
</tr>
<tr>
<td>15</td>
<td>Stanford University</td>
<td>United States</td>
<td>91.7</td>
</tr>
<tr>
<td>16</td>
<td>Johns Hopkins University</td>
<td>United States</td>
<td>91.2</td>
</tr>
<tr>
<td>17</td>
<td>University of Michigan</td>
<td>United States</td>
<td>91.2</td>
</tr>
<tr>
<td>18</td>
<td>McGill University</td>
<td>Canada</td>
<td>90.4</td>
</tr>
<tr>
<td>19</td>
<td>University of Toronto</td>
<td>Canada</td>
<td>89.6</td>
</tr>
<tr>
<td>20</td>
<td>Duke University</td>
<td>United States</td>
<td>89.5</td>
</tr>
</tbody>
</table>

*Source: QS World University Rankings 2012-2013.*

**THE**, formerly the Times Higher Education Supplement (**THES**) is a weekly magazine which was founded in London, for the purpose of recording the news and
other issues related to HE sector worldwide. This magazine has been known for publishing the annual World University Rankings, since November 2004\(^3\). The Quacquarelli Symonds’ World University Rankings is a ranking of the universities in the world that has published annually since 2004\(^3\).

According to the data compiled by many ranking platforms, a representation from Indian Universities is seen far below the global standards. IITs and IIMs are the most reputed HE providers in India but even they fail to match the international standards of education\(^3\). Even these Institutions are not found in the list of 20 elite Institutions.

1.7 TOTAL QUALITY MANAGEMENT IN INDIAN HIGHER LEARNING INSTITUTIONS

The socio-historical journey of HE in India has evolved through different periods, viz., ancient, mediaeval, colonial, post-Independence and contemporary. In this journey, a system of English education takes a position in HLIs. The HLIs are considered the most important agency of social change, social transformation, and entire development of the country.

In fact, this journey of HE started with an ancient system of education in the Vedic period in which two types of educational system were present there, viz., the Brahminical and the Buddhist systems of education. The Brahminical system of education was regulated by religious values, while the Buddhist form of education was secular in nature. But the major change in Indian HE took place through the initiatives of British rulers that made an impact both in positive and negative ways. At
that time, the indigenous system of education received a severe setback as the British system created a new class which served the British rulers\textsuperscript{37}.

Radhakrishnan and Kothari Commission reports have set the tone for building HE in India. In fact, HE system in our country could strive to build Universities as places of culture and of learning open to all by reinforcing the theme of learning throughout life. The University could participate in national development process through joining the debates with other stakeholders because of the laudable effort of both the Commissions. The Post-Indira era found a young Prime Minister is Rajiv Gandhi who was exposed to the western education and two decades after Kothari effort, the National Policy on Education was pronounced in 1986. It was done after a thorough review of our existing education policy. The policy statement which emerged following the review affirmed: “Education is a unique investment in the present and the future. This cardinal principle is the key to the National Policy on Education”\textsuperscript{38}.

The National Policy on Education (1986) created a nationwide awareness relating to positive contribution for education. It is worthy to mention that the educational objectives that were emphasised in early 1990s are:

- Education aims at liberation,
- Education, being an evolutionary force that enables both individual and collectivity to evolve various faculties and to integrate them by the superior intellectual, ethical, aesthetic and spiritual powers, should aim at developing a new type of humanity, highly humane, cultured and integrated,
Education should be developed as a harmonising force, which tries to relate the individual environment and cosmos in a total harmony by the purification and cultivation of various domains of outer space and inner space, and

Education should be so designed as to become a powerful carrier of the best of the heritage and it should therefore aim at transmitting to the new generations the lessons of the accumulated experiences of the past for further progress in the present and future\(^{39}\).

Quality gaps are evidently increasing in *HE* in terms of both academic standards and infrastructure facilities. The availability of qualified permanent staff, quality reference books, conducive research culture, good student support system and efficient governance and administrative systems are still considered inadequate in Indian *HE* system\(^{40}\).

At present, India has a system of assessment and accreditation through National Assessment and Accreditation Council (*NAAC*) established by the *UGC* in accordance to the provision under Section 12(ccc) of the *UGC* Act, with the objective to assess and accredit the *HLIs*, i.e. Colleges and Universities, etc. *NAAC*, through the prescribed mechanism, assesses the physical and academic infrastructure of the Universities and Colleges imparting *HE* and on the basis of the evaluation, assigns them appropriate grading. This often is referred to as accreditation by *NAAC*. National Board of Accreditation (*NBA*) is another autonomous body created under *AICTE* Act, 1987 in accordance with the provision under Section 10(u) of the Act and undertake the job evaluation of the Technical/Professional programmes offered by technical and professional *HLIs*\(^{41}\).
However, at present, NBA does academic evaluation of only those Technical or Professional Programmes, which are in operation, at least for four years, conducted by the Institutions or Universities and if it is found that the programme conforms to the standards prescribed by NBA, it is certified as accredited by NBA. Presently, NBA is confined to evaluate the Technical Programmes only and not the Institutions, obviously the Technical HLIs. Whereas, NAAC is confined to the assessment of the HLIs imparting general HE and not to the programmes offered by them.

1.8 STATEMENT OF THE PROBLEM

Indian HE offers facility of education and training in almost all aspects of arts, humanities, natural and social sciences, engineering, medical, agriculture, education, law, commerce, management, music, art, culture and so on. In its size and diversity, India has the third largest HE system in the world, next only to China and the United States.

After Independence, the growth in Indian HE has been very impressive. A number of schemes have been implemented for the improvement of the HE system of the country and to bring more Students from all the sectors of the society in this system. Some schemes are promoted by the UGC, some by the Technical Education Division of the Ministry of Human Resource Development (MHRD) and AICTE while others by Indian Council of Agricultural Research and several other departments of the Government of India.

Indian HE has been investigated by an unending chain of committees and commissions mainly to assess the situation of the system and to take decisions to reform for the sake of country’s development. Since Independence, quite a number of
Universities as the centre of HE have been established. But all these efforts had not controlled the brain drain of the country. Actually, nowadays, the Indian HE has become a portal for the Students to get through an examination that will entitle them to obtain a degree. After the completion of school education, a large number of Students go for HE. Generally, it is not due to the strong desire that has forced these large numbers to enter into the system of HE. The truth is that they wish to settle in life and for this they need a degree\textsuperscript{45}.

It can be understood from the findings of the UGC Report, February 2012 that despite growth in terms of number of Colleges and Enrolment, the education needs of increasing young population of this country is not fulfilled. It is also evident from the above report that there is lack of interest among Students to opt for research and development that could be attributed to the reason that they prefer lucrative jobs which could fetch them more money than spending years in doing research and getting very little compensation during that period. The reason could also be that there is lack of motivation to do research and the teaching community cannot shy away from the fact that they are unable to generate that motivation and interest among their Students. The onus also lies on the bodies like UGC and AICTE and the Universities to provide adequate facilities to young researchers along with good compensation for them to proceed in that direction\textsuperscript{46}.

Quality has been a central issue for researchers in the field of education for quite some years now. Still the application of TQM in HLIs is questionable and the implementation rate is very negligible in comparison to other sectors like Industry, Service, etc. According to estimates made in 2009-10 by “The Associated Chambers
of Commerce and Industry of India” (ASSOCHAM), over five lakh Students choose to go abroad every year to pursue quality HE.

According to THE 2012-2013 and Quacquarelli Symonds’ World University Rankings 2012-2013, the Global Rating of Indian HLIgs is very low with regard to the International Quality Parameters. The passing of “Foreign Education Bill” will not only dramatically enhance the profile of the HE in India, but also help to save outflow of 7.5 billion of foreign exchange per annum as a large number of Indian Students are going abroad for receiving HE. This changing scenario will create stiff competition for Indian HLIgs for survival. Though the number of Universities and Colleges has increased substantially, the quality aspects are estimated as inadequate. The huge amount of Indian taxpayers’ money is spent on the IITs and other Institutes of HE. But the graduates of these Institutes usually take up jobs in foreign countries. The benefit of their education goes to foreign countries and not to the Indian people47.

1.9 SIGNIFICANCE OF THE STUDY

HE stands at the crossroads of the cultures and has entered an unprecedented period of globalisation in the knowledge economy. HE is now seen as the main provider of the labour force, in addition to fulfil the need for constantly developing new ideas, technologies, methods, products and services which are essential for future economic growth. HE has become a ritual and without meaning or purpose. Our country still has vast reserves of talents and knowledge-seeking Students and Teachers who have the full potentiality of imagination powers and commitment but unfortunately, these are left almost untouched48.
Expansion in HE has emerged as a global phenomenon, which has resulted due to tremendous increase in the number of Students. The growth has been followed by a profound change in the Institutional framework of HE includes, creation of a variety of Institutions, strengthening of networks and academic associations, establishment of evaluation and accreditation agencies, multiplication and diversification of training areas and programmes of studies, growth of postgraduate programmes, professionalisation of teaching staff, and an increase in Research & Development activities, among others. This process has led to the transition from the elite to the mass model of HE\(^49\).

This study is considered very appropriate at this point of time as the Govt. of India is contemplating the proposal to allow Foreign Universities in India (Regulation of Entry and Operation Bill, 2010). This study proposes to identify the present Quality Status of HLIs in India and to find out the reasons and the deficiencies in the HE system. Also, the study aims at providing some valuable clues for improving the standards of our HLIs on par with some of the highly rated Universities and Colleges around the world.

### 1.10 Scope of the Study

As per the UGC Report on HE, 2012, now there are 634 degree awarding Institutions in the country with Tamil Nadu leading the chart with 59, followed by 58 in Uttar Pradesh, 48 in Rajasthan, 44 in Maharashtra and Karnataka, Gujarat, Madhya Pradesh and West Bengal having 42, 36, 28 and 26 respectively. The eight states of North-East have 40 such Institutions with Assam having 10, and 9 in Meghalaya. Rest of the six North-East states are Sikkim, Nagaland, Arunachal Pradesh, Mizoram, Manipur and Tripura having 5, 4, 3, 3, 3 and 3 respectively. The small number of Institutions in these states can be due to the small size of these states. Many Students
have moved from this region to different Central Universities, thereby raising questions on the quality of HE being provided by these Institutions.

Detailing about the growth of HLIs in India in past 60 years, the report says that in 1950, the total number of Universities was 30 (most of them Government run or funded) and the number of Colleges at that time was 695 which means on an average 23 Colleges per University. In 2011, the number of Universities has grown 30 times that come around 634 while the number of Colleges is 33,023, averaging 55 Colleges per University, thus putting huge pressure on the University administration in managing these Institutions. It is also to be mentioned that out of these 634 Universities, 100 are private.

While talking about the growth in student enrolment, the report states that in 1950, the total number of Students enrolled in HLIs was 3,97,000. The growth witnessed was steady till 2001 and stood at 83,99,000 but saw an unprecedented surge in the following 10 years. In 2010-11 it stands at 1,69,75,000 a figure that has almost doubled in the last decade.

The HE sector includes 634 Universities and University-Level Institutions which include 297 State Universities, 100 State Private Universities, 43 Central Universities, 129 Deemed Universities, 65 Institutions of National Importance and other University-Level Institutions. Other Institutions include 33,023 Colleges under Govt. and Private control, out of which 2,565 Women’s Colleges, functioning under these Universities and Institutions. This study has restricted its scope only to Arts and Science Colleges as other categories cannot be compared to various Quality and Infrastructure facilities.

**TABLE 1.3** represents the State-wise HLIs in India.
## TABLE 1.3
State-wise Higher Learning Institutions in India

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Places</th>
<th>No. of Universities</th>
<th>No. of Colleges</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Andaman &amp; Nicobar Islands</td>
<td>-</td>
<td>6</td>
</tr>
<tr>
<td>2</td>
<td>Andhra Pradesh</td>
<td>46</td>
<td>4066</td>
</tr>
<tr>
<td>3</td>
<td>Arunachal Pradesh</td>
<td>3</td>
<td>16</td>
</tr>
<tr>
<td>4</td>
<td>Assam</td>
<td>10</td>
<td>507</td>
</tr>
<tr>
<td>5</td>
<td>Bihar</td>
<td>21</td>
<td>653</td>
</tr>
<tr>
<td>6</td>
<td>Chandigarh</td>
<td>3</td>
<td>21</td>
</tr>
<tr>
<td>7</td>
<td>Chattisgarh</td>
<td>15</td>
<td>641</td>
</tr>
<tr>
<td>8</td>
<td>D &amp; N Haveli</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>9</td>
<td>Daman &amp; Diu</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>10</td>
<td>Delhi</td>
<td>25</td>
<td>15</td>
</tr>
<tr>
<td>11</td>
<td>Goa</td>
<td>2</td>
<td>54</td>
</tr>
<tr>
<td>12</td>
<td>Gujarat</td>
<td>36</td>
<td>1836</td>
</tr>
<tr>
<td>13</td>
<td>Haryana</td>
<td>22</td>
<td>902</td>
</tr>
<tr>
<td>14</td>
<td>Himachal Pradesh</td>
<td>18</td>
<td>344</td>
</tr>
<tr>
<td>15</td>
<td>Jammu and Kashmir</td>
<td>11</td>
<td>328</td>
</tr>
<tr>
<td>16</td>
<td>Jharkhand</td>
<td>12</td>
<td>231</td>
</tr>
<tr>
<td>17</td>
<td>Karnataka</td>
<td>42</td>
<td>3078</td>
</tr>
<tr>
<td>18</td>
<td>Kerala</td>
<td>19</td>
<td>1063</td>
</tr>
<tr>
<td>19</td>
<td>Lakshadweep</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>20</td>
<td>Madhya Pradesh</td>
<td>28</td>
<td>2236</td>
</tr>
<tr>
<td>21</td>
<td>Maharashtra</td>
<td>44</td>
<td>4631</td>
</tr>
<tr>
<td>22</td>
<td>Manipur</td>
<td>3</td>
<td>76</td>
</tr>
<tr>
<td>23</td>
<td>Meghalaya</td>
<td>9</td>
<td>64</td>
</tr>
<tr>
<td>24</td>
<td>Mizoram</td>
<td>3</td>
<td>28</td>
</tr>
<tr>
<td>25</td>
<td>Nagaland</td>
<td>4</td>
<td>53</td>
</tr>
<tr>
<td>26</td>
<td>Orissa</td>
<td>19</td>
<td>1100</td>
</tr>
<tr>
<td>27</td>
<td>Puducherry</td>
<td>4</td>
<td>86</td>
</tr>
<tr>
<td>28</td>
<td>Punjab</td>
<td>17</td>
<td>852</td>
</tr>
<tr>
<td>29</td>
<td>Rajasthan</td>
<td>48</td>
<td>2412</td>
</tr>
<tr>
<td>30</td>
<td>Sikkim</td>
<td>5</td>
<td>15</td>
</tr>
<tr>
<td>31</td>
<td>Tamil Nadu</td>
<td>59</td>
<td>2267</td>
</tr>
<tr>
<td>32</td>
<td>Tripura</td>
<td>3</td>
<td>39</td>
</tr>
<tr>
<td>33</td>
<td>Uttar Pradesh</td>
<td>58</td>
<td>3859</td>
</tr>
<tr>
<td>34</td>
<td>Uttarakhand</td>
<td>19</td>
<td>594</td>
</tr>
<tr>
<td>35</td>
<td>West Bengal</td>
<td>26</td>
<td>942</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>634</strong></td>
<td><strong>33023</strong></td>
</tr>
</tbody>
</table>


When National Institutes which are considered as Quality Institutions in India, are unable to find a place in the list of 200 Institutes, it is needless to say, the
condition of other non-accredited Institutions in India. It is believed that at least these Institutions are provided with sufficient Infrastructure and Learning facilities and additional funding made by the Government of India through UGC. The study assumes that there might be some quality initiatives exist in these Institutions. Hence, this study is restricted only to NAAC accredited Colleges.

FIGURE 1.2 represents the Growth of Indian HLI's from 1950-51 to 2010-2011.

FIGURE 1.2

Growth of Indian Higher Learning Institutions from 1950-51 to 2010-11

Source: UGC Report, 2012

The quantum of funding differs between Institutions of various disciplines. Professional Colleges, Universities and other Central Institutes are receiving major grants from various agencies and the graduates from out of these Institutions preferred by the employees compared to Arts and Science graduates. Whenever any quality issues that comes to surface, it means and takes into account only the Professional
Colleges and Universities. Very rarely, these Arts and Science Colleges are coming into lime light on any discussion that are taking place in the various corner of the country, though the number of Arts and Science Colleges are more than 64%, which caters to the majority of Students in these countries. Hence, this study prefers to identify the TQM status in Arts and Science Colleges. Though there are many stakeholders in HLIs, this study aims to take the Students. The Students play a major role in directing the future of this country. They are the major stakeholders when compared to the teachers, parents, administrators and other benefits.

FIGURE 1.3 represents the Growth of Students’ enrolment from 1950-1951 to 2010-2011.

![Graph showing Growth of Students’ Enrolment from 1950-1951 to 2010-2011](source: UGC Report, 2012)

There are 5997 number of NAAC accredited Colleges in India. Out of these Colleges, 1640 Institutions belongs to Arts and Science Colleges in India and 1048
Arts and Science Colleges in Southern States. Hence, this study is limited to NAAC accredited Arts and Science Colleges in the Southern States in India. The States included in the study are Andhra Pradesh, Karnataka, Kerala, Tamil Nadu and Puducherry. The study has proposed to collect the primary data from the Students. It covers the period upto 31st December, 2011.

1.1 RESEARCH OBJECTIVES OF THE STUDY

This study has identified the following research objectives for the purpose of assessing the quality status of HLI's with the help of Students’ perception.

1. To identify whether there is any significant difference in Students’ perception on NAAC quality dimensions in India.
2. To identify whether there is any significant relationship between NAAC quality dimensions and TQM status.
3. To study whether there exists Institution-wise difference in Students’ perception on NAAC quality dimensions in India.
4. To find out whether there is any difference exists between Gender, Discipline and Academic Level on NAAC quality dimensions in respect of Govt. and Private Colleges in India.

1.2 HYPOTHESES

Based on the above objectives, ten main null hypotheses have been formulated for the purpose of this study.

Research Objective 1

- To identify whether there is any significant difference in Students’ perception on NAAC quality dimensions in India.
Main Hypotheses

$H_0^1$: There is no significant difference in Students’ perception on $NAAC$ quality dimensions in India.

$H_0^2$: There is no significant difference in mean score between male and female Students with regard to perception on $NAAC$ quality dimensions in India.

$H_0^3$: There is no significant difference in mean score between Govt. and Private College Students with regard to perception on $NAAC$ quality dimensions in India.

$H_0^4$: There is no significant difference in mean score between UG, PG and RS with regard to perception on $NAAC$ quality dimensions in India.

$H_0^5$: There is no significant difference in mean score between Arts and Science Students with regard to Perception on $NAAC$ quality dimensions in India.

Sub-Hypotheses

$H_0^{1a}$: There is no significant difference in Students’ perception on factors of Curricular Aspects in India.

$H_0^{1b}$: There is no significant difference in Students’ perception on factors of Teaching, Learning and Evaluation in India.

$H_0^{1c}$: There is no significant difference in Students’ perception on factors of Infrastructure and Learning Resources in India.

$H_0^{1d}$: There is no significant difference in Students’ perception on factors of Research, Consultancy and Extension in India.

$H_0^{1e}$: There is no significant difference in Students’ perception on factors of Student Support and Progression in India.

$H_0^{1f}$: There is no significant difference in Students’ perception on factors of Governance and Leadership in India.
\( H_0^{1a} \): There is no significant difference in Students’ perception on factors of Innovative Practices in India.

\( H_0^{2a} \): There is no significant difference in mean score between male and female Students with regard to perception on factors of Curricular Aspects in India.

\( H_0^{2b} \): There is no significant difference in mean score between male and female Students with regard to perception on factors of Teaching, Learning and Evaluation in India.

\( H_0^{2c} \): There is no significant difference in mean score between male and female Students with regard to perception on factors of Infrastructure and Learning Resources in India.

\( H_0^{2d} \): There is no significant difference in mean score between male and female Students with regard to perception on factors of Research, Consultancy and Extension in India.

\( H_0^{2e} \): There is no significant difference in mean score between male and female Students with regard to perception on factors of Student Support and Progression in India.

\( H_0^{2f} \): There is no significant difference in mean score between male and female Students with regard to perception on factors of Governance and Leadership in India.

\( H_0^{3a} \): There is no significant difference in mean score between Govt. and Private College Students with regard to perception on factors of Curricular Aspects in India.

\( H_0^{3b} \): There is no significant difference in mean score between Govt. and Private College Students with regard to perception on factors of Teaching, Learning and Evaluation in India.

\( H_0^{3c} \): There is no significant difference in mean score between Govt. and Private College Students with regard to perception on factors of Infrastructure and Learning Resources in India.
$H_0^{3d}$: There is no significant difference in mean score between Govt. and Private College Students with regard to perception on factors of Research, Consultancy and Extension in India.

$H_0^{3e}$: There is no significant difference in mean score between Govt. and Private College Students with regard to perception on factors of Student Support and Progression in India.

$H_0^{3f}$: There is no significant difference in mean score between Govt. and Private College Students with regard to perception on factors of Governance and Leadership in India.

$H_0^{3g}$: There is no significant difference in mean score between Govt. and Private College Students with regard to perception on factors of Innovative Practices in India.

$H_0^{4a}$: There is no significant difference in mean score between $UG, PG$ and $RS$ with regard to perception on factors of Curricular Aspects in India.

$H_0^{4b}$: There is no significant difference in mean score between $UG, PG$ and $RS$ with regard to perception on factors of Teaching, Learning and Evaluation in India.

$H_0^{4c}$: There is no significant difference in mean score between $UG, PG$ and $RS$ with regard to perception on factors of Infrastructure and Learning Resources in India.

$H_0^{4d}$: There is no significant difference in mean score between $UG, PG$ and $RS$ with regard to perception on factors of Research, Consultancy and Extension in India.

$H_0^{4e}$: There is no significant difference in mean score between $UG, PG$ and $RS$ with regard to perception on factors of Student Support and Progression in India.

$H_0^{4f}$: There is no significant difference in mean score between $UG, PG$ and $RS$ with regard to perception on factors of Governance and Leadership in India.

$H_0^{4g}$: There is no significant difference in mean score between $UG, PG$ and $RS$ with regard to perception on factors of Innovative Practices in India.

$H_0^{5a}$: There is no significant difference in mean score between Arts and Science Students with regard to perception on factors of Curricular Aspects in India.

$H_0^{5b}$: There is no significant difference in mean score between Arts and Science Students with regard to perception on factors of Teaching, Learning and Evaluation in India.
H$_0^{5c}$: There is no significant difference in mean score between Arts and Science Students with regard to perception on factors of Infrastructure and Learning Resources in India.

H$_0^{5d}$: There is no significant difference in mean score between Arts and Science Students with regard to perception on factors of Research, Consultancy and Extension in India.

H$_0^{5e}$: There is no significant difference in mean score between Arts and Science Students with regard to perception on factors of Student Support and Progression in India.

H$_0^{5f}$: There is no significant difference in mean score between Arts and Science Students with regard to perception on factors of Governance and Leadership in India.

H$_0^{5g}$: There is no significant difference in mean score between Arts and Science Students with regard to perception on factors of Innovative Practices in India.

Research Objective 2

- To identify whether there is any significant relationship between NAAC quality dimensions and TQM status.

Main Hypothesis

H$_0^6$: There is no significant relationship between NAAC quality dimensions and TQM status in India.

Sub-Hypotheses

H$_0^{6a}$: There is no significant relationship between factors of Curricular Aspects and TQM status in India.

H$_0^{6b}$: There is no significant relationship between factors of Teaching, Learning and Evaluation and TQM status in India.

H$_0^{6c}$: There is no significant relationship between factors of Infrastructure and Learning Resources and TQM status in India.
H₀⁶𝑑. There is no significant relationship between factors of Research, Consultancy and Extension and TQM status in India.

H₀⁶𝑒. There is no significant relationship between factors of Student Support and Progression and TQM status in India.

H₀⁶𝑓. There is no significant relationship between factors of Governance and Leadership and TQM status in India.

H₀⁶𝑔. There is no significant relationship between factors of Innovative Practices and TQM status in India.

Research Objective 3

- To study whether there exists Institution-wise difference in Students’ perception on NAAC quality dimensions in India.

Main Hypothesis

H₀⁷: There is no significant perception difference between Govt. and Private College Students on NAAC quality dimensions in India.

Research Objective 4

- To find out whether there is any difference exists between Gender, Discipline and Academic Level on NAAC quality dimensions in respect of Govt. and Private College Students in India.

Main Hypotheses

H₀⁸: There is no significant difference between male and female Students on NAAC quality dimensions in respect of Govt. and Private College Students in India.

H₀⁹: There is no significant difference between UG, PG as well as RS on NAAC quality dimensions in respect of Govt. and Private College Students in India.
H₀: There is no significant difference between Arts and Science Students on NAAC quality dimensions in respect of Govt. and Private College Students in India.

1.13 METHODOLOGY

“Status of Total Quality Management in Higher Learning Institutions in India: A Social Perspective Study with reference to Accredited Arts and Science Colleges” is a study based on primary data. Gilaninia, et al. (2012) has investigated the relationship between readiness level managers for the implementation of TQM with organisational culture and effectiveness of managers in the Azad University of Guilan, Province. Magutu, et al. (2010) carried out focusing on the University of Nairobi’s academic services in conjunction with the main QM features.

The primary data has been collected from the Students in Southern States through questionnaires and SERVQUAL Techniques are adopted. Aghamolaei & Zare (2008) have determined the quality gap of educational services by using a modified SERVQUAL instrument amongst Students in Hormozgan University of Medical Sciences. Gao & Wei (2005) have analysed the appropriateness of Gap Theory in measuring SERVQUAL, and also to test the relationship between SERVQUAL and satisfaction of student in two business schools in the centre of China.

This study has also applied Six Sigma Techniques through Define, Measure, Analyse, Improve and Control (DMAIC) Methodology. Kaushik & Khanduja (2010) have reviewed the implications of applying Six Sigma methodology over a Technical Institute to increase the passing rate of Students. Ho, et al. (2006) has demonstrated how the Six Sigma framework can provide an excellent platform for infusing statistical education in the engineering curriculum.
The present study aims at measuring the Students’ perception on the basis of **SEVEN NAAC** Quality Dimensions. The seven **NAAC** Quality Dimensions are Curricular Aspects (**CA**), Teaching, Learning and Evaluation (**TLE**), Infrastructure and Learning Resources (**ILR**), Research, Consultancy and Extension (**RCE**), Student Support and Progression (**SSP**), Governance and Leadership (**GL**) and Innovative Practices (**IP**).

**TABLE 1.4**  
Students’ Enrolment in **NAAC** Accredited Arts and Science Colleges in Southern States

<table>
<thead>
<tr>
<th>Category of Students</th>
<th>No. of Students</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td>7,81,530</td>
</tr>
<tr>
<td>Male</td>
<td>4,05,975</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>3,75,555</td>
<td></td>
</tr>
<tr>
<td>Type of Institution</td>
<td></td>
<td>7,81,530</td>
</tr>
<tr>
<td>Govt.</td>
<td>2,60,510</td>
<td></td>
</tr>
<tr>
<td>Private</td>
<td>5,21,020</td>
<td></td>
</tr>
<tr>
<td>Academic Level</td>
<td></td>
<td>7,81,530</td>
</tr>
<tr>
<td>UG</td>
<td>6,79,099</td>
<td></td>
</tr>
<tr>
<td>PG</td>
<td>90,413</td>
<td></td>
</tr>
<tr>
<td>Research Scholar</td>
<td>12,018</td>
<td></td>
</tr>
<tr>
<td>Discipline</td>
<td></td>
<td>7,81,530</td>
</tr>
<tr>
<td>Arts</td>
<td>4,95,272</td>
<td></td>
</tr>
<tr>
<td>Science</td>
<td>2,86,258</td>
<td></td>
</tr>
</tbody>
</table>


**TABLE 1.4** depicts that the total number of Students enrolled in **NAAC** accredited Arts and Science Colleges in Southern States is 7,81,530 as on 31st December, 2011. For the purpose of collecting data from 62 **NAAC** accredited Arts and Science Colleges, this study has selected 22,500 Students, (3% of the total number of Students). Out of 22,500 Students, the information is found to be valid in respect of 17,670 Students.
This study aims to adopt the “Disproportionate Stratified Random Sampling Technique”. In a disproportionate stratified sample, the population of sampling units are divided into sub-groups, or strata, and a sample selected separately per stratum. Crucially, the sampling fraction is not the same within all strata. Some strata are over-sampled relative to others. In this study, the Students have been categorised into four, namely, Male and Female Students, Govt. and Private College Students, UnderGraduate (UG), PostGraduate (PG) and Research Scholar (RS), and Arts and Science Students. Pugalendhi, et al. (2010) have assessed the quality of work life of College Teachers based on sixteen dimensions such as, adequate and fair compensation and safe and healthy working conditions by applying disproportionate stratified random sampling technique.

Babalhavaej, et al. (2009) has assessed the performance of libraries at the Islamic Azad University, Sciences and Research Branch through gap analysis by using disproportionate stratified random sampling technique.

1.14 STATISTICAL TOOLS

This study uses both SERVQUAL and Six Sigma. Also, the researcher has used the statistical tools such as Mean, Standard Deviation, Reliability Analysis, One Sample ‘t’ test, Independent Sample ‘t’ test, ANOVA followed by DUNCAN Multiple Range test, Pearson Correlation Analysis, Discriminant Analysis and Multivariate Analysis (MANOVA). The explanation of these statistical tools is presented below:
Correlation analysis is a statistical technique used to measure the magnitude of linear relationship between two variables. Correlation analysis cannot be used in isolation to describe the relationship between variables. In Correlation, critical value of the Pearson Product-Moment Correlation Coefficient is identified. The critical value for 1%, 5% and 10% with degree of freedom 1 is 0.999, 0.997 and 0.988 respectively.

Discriminant analysis aims at studying the effect of two or more predictor variables (independent variables) on certain evaluation criterion. Designing a discriminant function: \( Y = aX_1 + bX_2 \), where \( Y \) is a linear composite representing the discriminant function, \( X_1 \) and \( X_2 \) are the predictor variables (independent variables) which are having effect on the evaluation criterion of the problem of interest.

Multivariate analysis is defined as “all statistical techniques which are simultaneously analyse more than two variables on a sample of observation”. Multivariate analysis helps the researcher in evaluating the relationship between multiple (more than two) variables simultaneously.

1.15 TECHNIQUES OF TOTAL QUALITY MANAGEMENT

This study has used the two TQM techniques such as SERVQUAL and Six Sigma through DMAIC methodology for the purpose of evaluating the Students’ perception on NAAC Quality Dimensions.

SERVQUAL involves a comparison of customers’ expectations with customers’ perceptions of the actual service performance. Customers expect quality service that considers their needs and improves their quality of life. Based on examinations of
writings of quality experts and researchers, the underlying theme of SERVQUAL is based on the following:

- It is difficult for the consumers to assess the SERVQUAL as compared to the goods quality.
- A comparison of consumers’ expectations with actual service performance results in perception of quality.
- Assessment of SERVQUAL is based on the outcome of service as well as the process of service delivery.

The key service parameters such as Reliability, Assurance, Tangibility, Empathy and Responsiveness of the education system can strengthen the quality status of HE.

- **Reliability** is the ability to perform the promised service dependably and accurately. Processes of admissions, instructions and teaching, examinations, assessments, placements and many other invariable processes are the part of HE system for providing practical and job oriented training. Students, teachers, administrative staff and every other stakeholder have the right to demand quality and excellence in HE.

- **Assurance** is related with the declaration and guarantee with which the employees and the organisation can use their knowledge and accuracy to convey trust and confidence.

- **Tangibles** such as physical facilities, equipments, personnel, communication material etc. attached with the services are very strategic. Increasing the number of Universities and Institutions is not only the way to improve quality; there is a requirement of qualitative facilities that act as tangibles in HE quality parameters.

- **Empathy** is the ability of the service provider to provide individual caring attention to its customer. Empathy has long been an intrinsic part of the education system. HE system with its aim to develop high quality individual
and with its support create a high class society and ultimately construct a developed nation, requires empathetic teachers and learners.

- **Responsiveness** is the willingness of the service provider to provide prompt service. The focus is on the attentiveness and promptness in dealing with the queries, requests, problems, complaints and questions of customers.

**FIGURE 1.4** depicts the **DMAIC** process in Six Sigma Quality Techniques.

**FIGURE 1.4**

**DMAIC Process in Six Sigma Quality Techniques**

1. **Define Phase**
   - What is important?
   - What problems need to be solved?

2. **Measure Phase**
   - How are we doing?
   - What is the capability of the process?

3. **Analyse Phase**
   - What is wrong?
   - Where do defects occur?

4. **Improve Phase**
   - What do we need to do?
   - What are important factors?

5. **Control Phase**
   - How do we assure performance?
   - What controls can sustain the gain?

*Source: Six Sigma: The breakthrough management strategy revolutionizing the world’s top corporations, Harry M. J., Schroeder. R. 2000.*
Sigma is a Greek letter representing standard deviation or the amount of variation within a given process. According to Harry and Schroeder, Six Sigma is a powerful breakthrough business improvement strategy that enables companies to use simple and powerful statistical methods for achieving and sustaining operational excellence. It is a business strategy that allows companies to drastically improve their performance by designing and monitoring everyday business activities in ways that minimise waste and resources while increasing customer satisfaction.

Park (2002) described that Six Sigma implies three things, namely, statistical measurement, management strategy and quality culture. It is a measure of how well a process is performing through statistical measurement of quality level. It is a new management strategy under leadership of the top management that creates quality innovation and total customer satisfaction. It is also a quality culture. It provides the way to do things right at the first time and to work smarter by using data information. It also provides an atmosphere to solve many Critical-To-Quality problems through team efforts. Statistical representation of Six Sigma describes quantitatively, how a process is performing.

The goal of Six Sigma is to design processes that do what they are supposed to do with very high reliability, ultimately producing very consistent products and services. The numerical goal of Six Sigma is reducing defects less than 3.4 Parts Per Million also known as DPMO, reducing cycle time and reducing costs dramatically, which impact the bottom line.

The culture of Six Sigma suggests a work environment and quality of work life where everyone in the company desires to achieve the Six Sigma target, to
increase customer satisfaction, to increase efficiency, to lower costs and to improve profitability. This culture provides an important and continuing focus to management. The Six Sigma quality concept penetrates applying to all processes within a company whether ‘defective’ means an out of specific time coming off a production line, the amount of ‘re-work’ in a batch of a product, a document with a misprint, or a late delivery time. The implementation in the educational arena requires the teachers to be considered ‘employees’, or the workforce in general. The customers tend to be the parents who pay the fees and want quality in return of the good result of their wards.

The six sigma implementation evolves around the following:

- **Define** phase involves the definition of the project/assignment, using process map, application area, desired improvement, likely benefits, etc. The importance lies in having the chance of a high successful delivery of better quality and saving costs in totality. In the context of academic strata, the failures include identifying and defining the problem.

- **Measure** phase involves the analysis of the process to determine its present state and the future, as obtained. Data collection is the main emphasis of this phase.

- **Analyse** phase involves the data analysis for identification of parts of process which affect the quality of the problem.

- **Improve** phase adds the process to find a permanent solution to the problem. This may involve better forecasting, better scheduling, better procedures or equipment, specifying teaching techniques, work environment for the teachers, and school campus quality life.
Control phase involves the process of closing the problem by putting in the right procedures and management statistics\(^{62}\).

**1.16 PROCESSING AND ANALYSIS OF DATA**

The data collected from various sources have been classified and tabulated by applying appropriate statistical tools. The statistical techniques used for analysis are Reliability Analysis, Mean, Standard Deviation, One Sample ‘t’ test, Independent Sample ‘t’ test, ANOVA followed by Duncan Multiple Range test, Pearson Correlation Analysis, Discriminant Analysis and MANOVA.

The Quality Status of Indian HLIs on NAAC quality dimensions has been tested on the basis of Students’ perception. The types of analysis are based on SERVQUAL and Six Sigma Techniques have been presented below:

- The differences in Students’ perception on NAAC quality dimensions in India has been tested by using One Sample ‘t’ test, Independent Sample ‘t’ test and ANOVA followed by Duncan Multiple Range Test.

- The most influential NAAC quality dimensions have been identified by using Pearson Correlation Analysis through DMAIC Methodology in Six Sigma Techniques.

- Variation in Students’ perception between Govt. and Private College Students on NAAC quality dimensions in India has been analysed by using Discriminant Analysis.

- The difference between Gender, Discipline and Academic Level on NAAC quality dimensions in respect of Govt. and Private College Students in India has been analysed by using MANOVA.
1.17 EXPLANATION – KEYWORDS

1.17.1 Quality

Quality is a momentary perception that occurs when something in our environment interacts with us, in the pre-intellectual awareness that comes before rational thought takes over and begins establishing order. Judgment of the resulting order is then reported as good or bad quality value.

1.17.2 Total Quality Management – Meaning

*TQM* is an approach that seeks to improve quality and performance which will meet or exceed customer expectations. This can be achieved by integrating all quality-related functions and processes throughout the company. *TQM* looks at the overall quality measures used by a company including managing quality design and development, quality control and maintenance, quality improvement, and quality assurance. *TQM* takes into account all quality measures taken at all levels and involving all company employees.

1.17.3 Higher Learning Institutions

*HLIs* means a University, or College, or campus, or any other autonomous Institution that offers a level of academic education and professional training that leads to full academic and/or professional qualifications and competence.

1.17.4 Accreditation

Accreditation is the act of granting credit or recognition (especially with respect to Educational Institution that maintains suitable standards). It refers to a process by which a business is declared competent and credible by an overseeing third party. Educational Institutions, for example, can receive accreditation, as can laboratories and health care facilities.
1.17.5 National Assessment and Accreditation Council

NAAC is a brain child of UGC that was established in 1992 to address the deterioration in the quality of HE in our country. It is functioning from with its headquarters at Bangalore as an autonomous national accreditation body. NAAC is responsible to assess and accredit Institutions of HE in the country with special emphasis on upholding the quality of HE in India.

1.17.6 University Grants Commission

The UGC is a statutory organisation set up by Union Government in 1956, for the coordination, determination and maintenance of standards of University Education. It provides recognition for Universities in India, and provides funds for Government recognised Universities and Colleges. Its headquarters is in New Delhi, and has six regional centres in Pune, Bhopal, Kolkata, Hyderabad, Guwahati and Bangalore.

1.17.7 Service Quality

Service Quality refers to a number of inter-related factors including the way in which individuals are treated by providers, the scope of services and contraceptives available to clients, the quality of the information provided to the clients and quality of the counselling skills, the promotion of individual choice, the technical competence of providers, and the accessibility and continuity of services.

1.17.8 Six Sigma

Six Sigma is a business management strategy originally developed by Motorola, USA in 1981. It enjoys widespread application in many sectors of industry, although its application is not without controversy. It is a business management
strategy that provides businesses with the tools to identify and get rid of deficiencies in their business processes.

1.18 LIMITATIONS OF THE STUDY

- This study is restricted to only NAAC accredited Arts and Science Colleges only in Southern States and has not included other Institutions.
- The study has got the data only from the Students and omitted other stakeholders namely Teachers, Administrators and others.
- The study has not considered the HLIs which are not accredited by NAAC, though they may perform better than the accredited Colleges.
- The data obtained from NAAC source as on 31st December, 2011.
- There is no equal proportion of Students between Male and Female, Govt. and Private, UG, PG and RS in the sample.
- The results of the study may not be conclusive and accurate as the data collected is of qualitative nature.

1.19 CHAPTER DIVISION

The study is organised in FIVE chapters as follows:

Chapter I contains Introduction, a brief outline about Theories of Education, HE and TQM and HRD, Statement of the Problem, Significance, Scope, Objectives, Hypotheses of the Study, Methodology, Explanation - Keywords, Processing and Analysis of Data, Limitations, Chapter Division and Conclusion.

Chapter II comprises the Literature Study and Past Findings with regard to the Concepts of TQM, Service Quality and Six Sigma in HE.
Chapter III deals with the Revisiting of the Concepts and Techniques of TQM.

Chapter IV provides the Results, Analysis and Discussion of Empirical Data.

Chapter V provides the Research Findings, Recommendations made and the necessary Conclusions drawn.

1.20 CONCLUSION

This chapter has provided a background to TQM and outlined the importance of HE for HRD. The problem has been formulated, the objectives of the study identified and an overview of the research design used to investigate the problem. Based on the findings, the final aim of the study is to provide recommendations for educators in academically underperforming HLIs in India in order to improve quality status through adopting TQM strategies.
CHAPTER – I

References


6 http://en.wikipedia.org/wiki/Total_Quality_Management


   <http://www.cliffsnotes.com/WileyCDA/CliffsReviewTopic/topicArticleId-26957,
   articleId-26838.html>.

30 Tandon, P, loc.cit.


35 www.wikipedia.org


41 www.naac.gov.in

42 www.mhrd.gov.in


53 Aghamolaei, T., & Zare, S. (2008). Quality Gap of Educational Services in viewpoints of Students in Hormozgan University of Medical Sciences. *Bio-Med Central Medical Education, 8* (34), 1-6.


tqmhead@aol.com

www.wikipedia.org