

# TOTAL QUALITY MANAGEMENT IN INDIAN EDUCATION SYSTEM

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**ABSTRACT:** *The education system of India undergone many changes and has a continuous growth after independence although there are many challenges like globalization, financing, infrastructure facilities, quality management etc. In order to meet the market competition, the quality education is very essential on which the success of every educational institution depends. Hence, to achieve the required quality, many educationalists, policy makers, scholars and researchers stated the role of Total Quality Management and identified it as an appropriate management philosophy for promoting continuous improvement, customer satisfaction and organizational excellence. As many studies are the evidence for the improvement of manufacturing sector, there is still lack of examples for the application and success of TQM in education sector. There is a necessity for educational institutions to concentrate on total quality management techniques in order to improve its quality education. In this connection, the main objective of this study is to recognize the TQM concept along with its importance in current education scenario. At the same time, the importance of education in the present society is also described along with obtaining quality in it through total quality management practices. It also identifies the challenges in implementation TQM methods along with essential steps to be followed for an effective application of TQM tools.*

**Keywords:** *Total Quality Management, Continuous Improvement, Challenges, Education System, Quality Culture*

## What is Total Quality Management (TQM)?

TQM is defined as an organized program which denotes everyone and everything in an organization that is involved in the continuous improvement of an enterprise. Frazier (1997) indicated that quality management present an association between results and the process through which the results are achieved. If the reason of failures in education is due to failure in design, quality management may be considered as a systematic model to manage the change in public education.

Total Quality Management (TQM) is accepted as a philosophy for effective management which is practiced as a business excellence strategy. Although the concept of total quality management was promoted in the USA by Dr. W. Edwards Deming in the late 1950's; Japan was the first who incorporated this concept to uplift their economy after the World War II. The success of TQM in Japan resulted in increase of popularity of this concept in many countries throughout the world. Initially, this concept was designed majorly for manufacturing organizations; which later on, became popular for other service institutions which include bank, insurance, non-profit organizations, and health care etc. Lunenburg states that total quality management is also related to corporations, service organizations, universities, and elementary and secondary schools. Currently, TQM is considered as a universal management tool and applied to any organization.

As per Koslowski, in this competitive world, quality education is very essential and major concern. The pressure and importance for quality education are increasing. All educational institutions are trying to implement TQM in education as it is believed that quality education is one of the essential building blocks for development of the economy. There is a serious argument on the applicability of TQM in education as this concept was actually developed for manufacturing organizations. There is a need to solve this problem. During primary investigation, it was also discovered that there are some serious challenges in implementation of TQM in education. It is also important to discover the nature of these challenges; and hence the educational institutions can take appropriate measure while implementing TQM in education.

Through TQM, two slightly different but related notions can be described. The first is a philosophy of continuous improvement and the second is related to its meaning and advantages. TQM describes the tools and techniques that are to be followed in an organization. It consists of both a mind-set and practical activities i.e. an attitude as well as a process of stimulating continuous improvement.

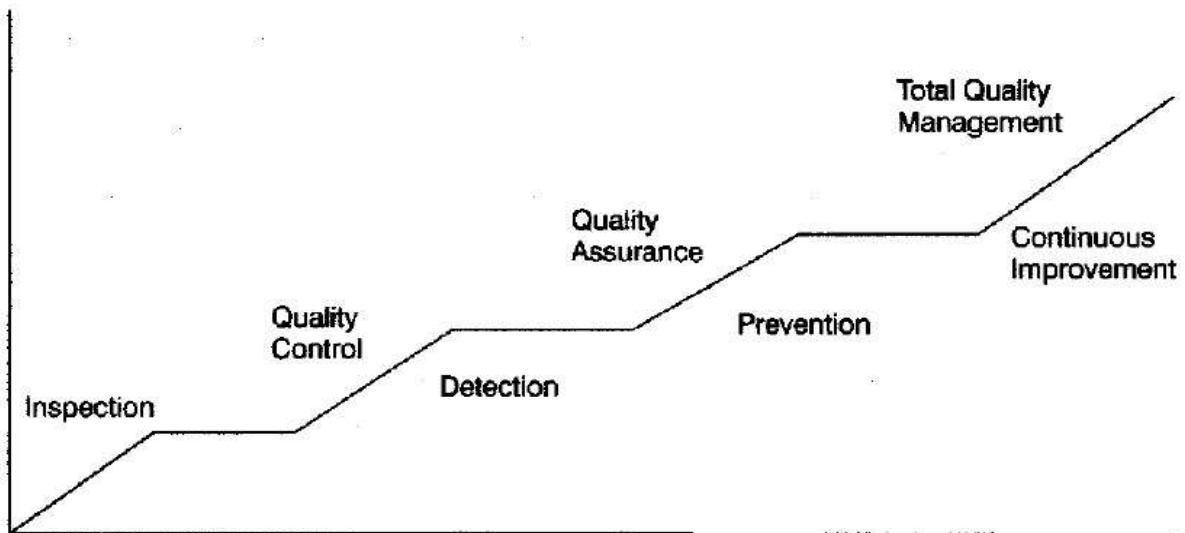
## Study Objectives

The main objective of this study is to understand the concept of TQM and its importance in current education scenario. This study also focuses on identifying the role and importance of education in the present society along with acquiring quality in it through total quality management techniques. In addition to these, this study also recognizes the challenges in TQM implementation along with essential steps to be followed for an effective application of TQM tools.

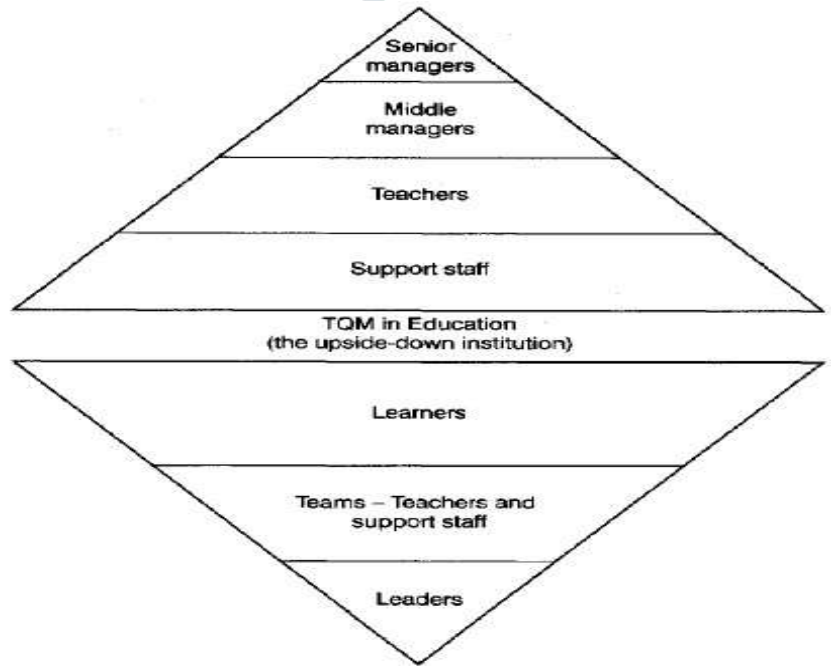
## Methodology

The methodology chosen for this study is qualitative. Through this exploratory approach, the objectives formed can be understood clearly. The required data and information for the study are collected through review of literature.

The hierarchy of quality concepts



Total quality management, as an approach; alter the focus of an institution from short term profitability to long term improvement of quality. Herman (1994) explained three levels through which the quality management can be applied in education. The first level is management process of an educational institution that involves strategic planning, recruiting and development of staff, organizing the resources, and arrangement of what is taught, how it is taught, and how it is evaluated. The second level is the quality of teaching for the students. In this context, students are considered as customers and workers too in the system of education. Administrators should make the students involve in their educational activities through training on the process of evaluating the process of learning and make them accept their learning responsibility. Robert (1998) stated that universal authorization is the major factor that influences the success or failure of TQM implementation process which should be done in every stage or level of an organization, and if not, its implementation can be said as unsuccessful.



TQM usually involves of a chain of small-scales projects. The TQM's philosophy consists of large-scale, stimulating and comprehensive, but its practical implementation consists of small-scale, extremely practical and incremental. Edward 3rd (2002) stated that steady change is depended on an extensive series of small and achievable projects. TQM entails the change completely for an organization. Change of culture is notoriously difficult to bring about and takes into implement. It requires a change of attitudes and working methods. Two things are required for staff to produce quality. Firstly, staff needs a suitable environment in which to work. The tools of trade, system and procedures should aid them in doing their jobs. The environment that surrounds staff has a profound effect on their ability to do their job properly and effectively. Secondly, Edward 3<sup>rd</sup> (2002) stated that success and achievement requires encouragement and recognition from leaders who can appreciate their achievement and direct them towards further success.

The customers' emphasis is basically on the set of relationship in education. The emphasis of upside-down organizational strategy does not influence the authority structure in the school and college, and it does not affect the vital role of leadership of senior managers. The inverted hierarchy give emphasizes to service-giving association and the customer to the institution (Edward 3<sup>rd</sup>, 2002).

Meeting the customers' needs and wants is key mission of TQM. The quality must match to the customers' and clients' expectation and requirement. What the customer wants is the quality but not what the institution decides is best for them. Education possesses a considerable challenge in its associations with its external customers. Expectations are varied and often inconsistent and the public are often confused with the quality of program with reputation of the institution (Edward 3<sup>rd</sup>, 2002). TQM will be the outcome of the comparative weight of the customers individually at the various educational levels.

Robert (1998) specified that, in the elementary schools, the parents of the students are considered as most important customers. As maturity of the students' intensifications, the parents are replaced by them as the most important customer. In a training situation, the most important customer is the organization that needs the individuals trained. In addition, Edward (2002) indicated customers also include internal customers

such as everyone working in a school, college or university is both a supplier of service and a customer of others. It is important to ensure internal customer function efficiently and effectively by identifying to whom people provide services.

Education is about learning. Every educational institution which recognizes the rate of total quality must consider various learning styles along with the requirement of individualization and differentiation strategies in learning. Making the learners aware of different learning methods that are available for them is the responsibility of educational institutions. They need to give learners opportunities to sample learning in a variety of different styles. Institutions need to understand that many learners also like to switch and mix “n” –match styles and must try to be sufficiently flexible to provide choice in learning. According to Edward 3<sup>rd</sup> (2002), learner is considered as the prime customer and it is not possible to achieve total quality without meeting individual needs. It is important to apply the principles of TQM in education and to start with “all shared succeed” to create mission between learners and their teachers. The framework for application of TQM was given by Dr. W. Edwards Deming. Robert (1998) proposed TQM principles which are used as a checklist for implementation. They are:

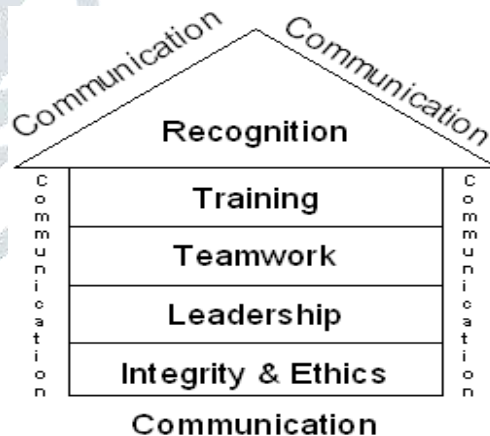
1. Create reliability of purpose.
2. Prepare a new philosophy.
3. Terminate dependence on mass inspection.
4. End the practice of conducting on cost alone.
5. Constantly improve process.
6. Institute training.
7. Institute leadership.
8. Drive out fear.
9. Break down barriers.
10. Avoid obsession with goals and slogans.
11. Eliminate numerical quotas.
12. Remove barriers to pride of workmanship.
13. Organization – wide involvement.
14. Define management’s responsibilities to make it happen.

The establishment of a durable process of evaluation is also a significant element for any process of quality assurance. Evaluation should be a continuous process throughout the process of TQM. Learners are involved in this evaluation process and assess themselves through learning process and results must be discussed by completing a record of achievement (Dylan, Clare, Christine & Paul, 2004). The application of TQM principles can also be done in high school, middle school, and elementary school process of education as well as training. These principles act as powerful tools in setting the educational process. The main elements for successful implementation of these principles are 1) obtain the everyone’s support in the chain of supervision, 2) recognize the customers, 3) emphasis on clarifying the process and 4) use Deming’s 14 points for guiding and as a checklist in the process of implementation (Robert(1998)).

**Key elements of TQM**

Total quality consists of a narration of the culture, attitude and association of a company which attempts to offer products and services for customers in order to satisfy their needs and wants. Quality is essential in this culture in every aspect of operations of a company which eliminate the waste to the maximum extent from the operations.

In order to implement TQM in an organization, eight key elements that are to be followed are: Ethics, Integrity, Trust, Training, Teamwork, Leadership, Recognition, and Communication. All these elements are divided into four groups on the basis of their function. They are:



- I. Foundation:** Ethics, Integrity and Trust.
- II. Building Bricks:** Training, Teamwork and Leadership.
- III. Binding Mortar:** Communication
- IV. Roof:** Recognition.

**I. Foundation:** Total quality management is built with a foundation of ethics, integrity and trust. It adopts directness, equality and honesty and enables everyone to involve in organizational activities. This is the major key to unlock the eventual potential of TQM. These three fundamentals work together, though, the offerings of each element to the TQM concept differs.

1. **Ethics:** Ethics is the discipline in the good or bad of any situation is involved. It is said to be a two-faced subject that is characterized by administrative and individual ethics. Organizational ethics create a business code of ethics that summary the strategies that are to be followed by all employees during their work performance. Individual ethics comprise personal rights or wrongs.
2. **Integrity:** Integrity indicates honesty, morals, values, justice, equality and obedience to the realities and sincerity. The representation is that what customers (internal or external) assume and want to receive. People consider duplicity as the opposite side of integrity. TQM will not be applicable in the context of duplicity.
3. **Trust:** Trust is a resultant of integrity and ethical behavior. Without the presence of trust, the agenda of TQM can’t be built. Trust brings up all the members together and encourages them in participation. It consents empowerment which boosts ownership and it encourages the assurance. It lets decision making at suitable levels of the organization, raises individual risk-taking capacity which results in continuous improvement and supports to ensure the emphasis on process improvement and are not used to oppose people.

Trust is important to confirm customer satisfaction. Hence, through trust, a cooperative environment which is essential for TQM can be built.

## II. Bricks: Strong foundation of trust, ethics and integrity is important on which the bricks are placed in order to reach the roof of recognition.

- 1. Training:** Training is very essential for employees to enhance their productivity. Supervisors are merely responsible for implementation of TQM within their departments, and educating their employees regarding TQM philosophies. This training involves development of interpersonal skills, the capability to work within teams, ability of problem solving, decision making capability, job management performance analysis and improvement, business economics and technical skills. During the process of creation and formation of TQM in an organization, employees are trained in a way that they can work efficiently as employees in the company.
- 2. Teamwork:** To run a successful business, teamwork is also considered as a vital element of TQM. With the help of teams, the problems that are occurred in the business can be solved quickly and easily. From the teams, more permanent improvements can be provided in the processes and operations. In teams, people feel much more comfortable in conveying the problems that may occur in the business, and can acquire assistance from co-workers to obtain a solution and implement it. There are generally three types of teams that TQM organizations implement:

**A. Quality improvement teams or excellence teams (QITs)** – These are considered as temporary teams which deal with definite problems that often repeat. These teams are basically implemented for a limited period of time i.e., three to twelve months.

**B. Problem solving teams (PSTs)** – These are also momentary teams which are present to solve particular problems and also to recognize and solve the causes of problems. They are usually last implemented for one week to three months.

**C. Natural work teams (NWTs)** – These teams comprise of skilled workers which are formed into small groups who share business functions and responsibilities. The concepts like employee involvement teams, self-managing teams and quality circles are used in these teams. These teams usually work for short period i.e., one to two hours a week.

- 3. Leadership:** It is probably the utmost significant component in TQM. It is seen everywhere in the organization. Leadership includes providing a vision with inspiration for a manager, preparing well planned strategies which everyone can understand and finally offer values to guide the subordinates. To make TQM a successful strategy in the business, the supervisor should lead his/her employees effectively in an appropriate way. Every supervisor should understand and believe the concept of total quality management, and finally practice the techniques of TQM in the daily activities which involve their belief and commitment. The supervisor should take care regarding the transmission of strategies, philosophies, values and goals of an organization throughout the organization in order to provide clarity of business activities among the employees. A crucial point is that the top management should introduce and lead TQM for effective results. The top management's commitment and personal involvement is essential in generating and organizing clear quality values and goals that are reliable with the organizational objectives and in making and deploying well-defined systems, methods and performance measures in order to achieve the goals.

## III. Binding Mortar:

- 1. Communication:** It coordinates everything together. Beginning from foundation and ending to roof of the TQM house, everything is assured by strong communication. It plays a vital role as a connection between all TQM elements. Communication means a mutual understanding of thoughts between the sender and the receiver. The success of TQM depends on the communication among all the members of an organization i.e. suppliers and customers. Supervisors must maintain open source of communication and hence all the employees can be able to send and receive information regarding the process of TQM. Communication combined with the sharing of correct information is important. For communication to be reliable the message should be clear and receiver should understand in the way the sender planned. There are many ways of communication the organization follow. They are downward communication in which the supervisors make the employees understand all the TQM concepts, upward communication in which employees of lower level are given opportunity to express their ideas and finally sideways communication in which every employee deals with the customers and suppliers directly.

## IV. Roof:

- 1. Recognition:** Recognition is the final element in the total system. It must be provided for both suggestions and achievements for teams as well as individuals. Employees strive to receive recognition for themselves and their teams. Detecting and recognizing contributors is the most important job of a supervisor. As the people are predictable, there are many changes in self-confidence, efficiency, excellence and the effort to perform a task. Recognition will be effective if an action which an employee performs directly follows it. Recognition may be in several ways, places and time.

## Role of education in 21<sup>st</sup> century

In our society, which is a knowledge-driven, all the people seek education for a bright future, to obtain good jobs and careers for meaningful and satisfying lives. From this, it is clear that education has an important role in the coming years. So providing education to everyone becomes a high strategic issue for every educational institution. "India is entering the global employment marketplace with a self-imposed handicap of which we are just beginning to become conscious — an acute shortage of Quality institutions of higher education. For far too long, we have been complacent about the fact that we had produced, since the 1960s, the world's second largest pool of trained scientists and engineers." - Shashi Tharoor, Former UN Diplomat (Implementing Quality in Higher Education, 2012).

Indian education system is considered as one of the largest system in the world. During independence, only 20 universities and 500 colleges with 0.1 million of students were present in India. But, as per the recent survey as on August 2011, the universities increased to 611, colleges increased to 31,324. The main aim of 12<sup>th</sup> FYP is to encourage mainly higher education through establishing new universities and increasing the strength of students of current universities and colleges. In order to improve the quality of education, the measures taken are:

- Extension of the reforms in higher education should be followed in the field of academic, administration, curricula, pedagogy, programme offerings, research, etc.
- Organizational and systemic policies and accurate programmes to enable all the measures essential for enhancing the quality and to encourage excellence in higher education, including good governance are to be formulated.
- Providing incentives through funding process for academic reforms such as introduction of semester method, grading, choice-based credit system, examination reforms, certification, etc. can enhance the quality.
- Focus of 12<sup>th</sup> FYP will be on creation of a new knowledge based society from the learners' perspective, satisfying the national and international demands of the society.
- Development of new accreditation models and systems to implement the strategies with the dual objectives of national level coverage and compulsory accreditation of all higher education institutions shall be undertaken in a time bound manner.
- In order to internalize quality inputs, all universities, government and government-aided colleges should be supported with full-fledged Internal Quality Assurance Cells (IQAC) as a UGC-supported scheme, on regular basis with the required Information Technology (IT) infrastructure and supportive manpower (Inclusive and Qualitative expansion of Higher Education, 12th Five Year Plan, 2011).

### **Importance of TQM in Indian education system**

Total Quality Management (TQM) is a practice that enables to adapt to today's changing external environment. It improves the organizational members' confidence and trust and eliminates insecurity and fear. It makes an institution to carry out its activities within its budget and determined time limit and help it to create a flexible design and infrastructure through which an institution can accomplish fluctuating societal demands. It assists to bring a change in an institution.

TQM concepts are widely used in the manufacturing industries whereas its application in the education sector is recorded less. But now many educational institutions started implementing TQM concepts and its values with a confidence that TQM values are well matched with higher education than many traditional management systems. In India, All India Council for Technical Education (AICTE) is started as a national level apex advisory body to standardize, guarantee and regulate the quality of education in the country. An increase in the enrollment of students in the higher educational institutions requires improvement in the quality of education. Hence, there is a need of great improvement in the educational curriculum in order to advance the quality of education in future as India has not yet accomplished outstanding results in the TQM implementation in the higher education sector. To achieve this, there is a need for India to increase the number of universities, colleges with international standards which fully contribute to the world economy. A successful TQM practice ultimately increase the educational institution's standard and value of market and also these organizations will be able to face any challenge from its competitors (Krishnan A., 2011).

India as a democratic country certifies everyone of getting equal chance for education. There are a number of educational institutions which offer only theoretical education. Practical education does not have any importance. The syllabus that the schools are teaching is being followed from many decades; it does not undergo any changes according to the requirements of the learners, changing world, and according to the requirements of the society. The education that provide professionalism, scientific temper and practical hands is never been taught in the schools. Current educational system is creating learners with certificates, employability, learners with grades but there is no creativity, learners with degrees but there is no knowledge. So they need to face the obstacles during the utilization of their Knowledge. There is a need for Industries also to spend precious time, money and energy in undoing, modifying and redoing the people's knowledge. Hence there is a need to implement Total Quality Management in the schools through which the problems at all levels can be solved. The essence of the education system should be quality and hence the other fields will permit, develop and can obtain all types of support from the education system.

Taking this situation into consideration, school education can be regarded as the foundation or building block for the university education and also for the system for whole country. If there is no attention on quality education at school level, there will be a failure in our university level education and mission. Our simple and traditional society cannot be transformed into knowledge society without total quality management. Unless the education system is improved and efficiency is increased, it will be difficult for India to move ahead to meet the competition as per the changing environment.

Hence improvement of quality through total quality management techniques can enable to develop practical education in the institutions of the country. Improvement of quality is never ending where quality in education leads to a potential future. Hence understanding of quality catalogues and their practical implementation should be highly prioritized and more attention must be paid to the categories of educational strata e.g. school, university, educational management and the staff. There is a need for the implementation of total quality management in order to maintain quality in education at school level. Quality should be achieved in all aspects of the institution right from infrastructure to class room teaching, professional development and development of scientific temper. To face the competition globally, educational institutions especially schools must encourage quality education. In India, it is now broadly accepted that higher education is essential to India's development to the global knowledge economy. So far it is believed that disasters are affecting the Indian education system usually and higher education specially. The National Knowledge Commission (NKC) characterized the lack of quality as quiet crises. Most of the industries usually represent the shortage of huge skills and state that growth and development cannot be long lasting except the problem of skill shortage is identified and solved. Over past sixty years, India expanded the capacity of primary, secondary and higher educational institutions. In 1950 India consists of 25 universities whereas now there are above 704, colleges were 700 while now we have above 36,000 colleges, 7,000 teacher training colleges, 1,244 polytechnics, 1,552 engineering colleges, 170 medical colleges. They produce 10% employable arts graduates, 25% employable engineering graduates, 30% employable medicine graduates. Japan was the first to implement TQM in their educational system in order to alter it to produce the best products which create space for marketing all over the world. Hence, there is a perfect reason for implementing TQM in our education system also. There is a need of organizing seminars, debates and symposiums both at state and national level for bringing awareness among teachers of all levels of education i.e. primary, secondary and tertiary which in turn is useful to achieve dynamic and vibrant education system. Sophisticated infrastructure should be provided for all the educational institutions, along with well qualified teaching staff, management in order to make the implementation of TQM a success. TQM techniques should also be implemented in private educational institutions along with government educational institutions. There should be autonomous bodies for all the levels primary, secondary and university which can examine

the educational institutions after every one and two years, so that implementation of TQM can be certified. The concept should be applied wholly and solely to change education system which would be according to changing times. TQM should be applied in other organizations for better performance.

To make TQM successful, it is essential to make total institution along with managing committee, principal, teachers, students, non-teaching staff as well as parents and the community should develop an unceasing and mutual commitment and dedication to improve quality.

The initial step in this path is to formulate a vision and mission to improve quality, through which students' needs are fulfilled, encourage the involvement of the society in programs for improving the quality and promote continuous improvement in educational services and educational products. In most cases, personnel in the organization may not know the details of their customers. Especially, for an educational institution, student is the initial customer. In the aspect of school, higher learning institutions, the industries and also institutions which offer vocational courses are regarded as their customers.

In the context of a college, students from post graduate courses, professional colleges and the economy are considered as customers. In addition, the society is also considered as vital customer. Hence, any programme or a strategy that is formulated to improve the quality of educational products and services must perform its activities to fulfill the customers' needs and requirements.

There are many cases in which the lecturers in technical institutions complain that the students' performance in learning is good but their practical application is poor. In this situation, it can be understood that the educational institutions are not performing well to satisfy the customer needs as they are unable to give their performance according to the practical world.

Additionally, educational institutions have a propensity to quantify their quality in terms of academic achievement of their students. The assumption is that the quality of their education is good if the outputs of an institution are improving. Hence, it is important for every educationalist to recognize appropriate indicators of educational quality and prepare an appropriate method of data collection regarding the needs and wants of its customers.

Arcaro (1997) has defined a model for total quality schools in which the principles of a Total Quality School are represented as "the pillars of quality" for education. Although this model is originally defined for schools, it is equally effective for colleges also.

According to him, the important elements for every successful quality initiative are considered as pillars of quality which are widespread. They can be implemented to every educational organization starting from activities of classroom to building maintenance. All the five pillars of quality are given equal importance in this model as they are important for every educational system as a whole through which total quality status can be achieved.

**IMPROVEMENTS IN CURRICULUM:** The word curriculum was originated from the Latin word 'currere' that means 'a course to be run'. The curriculum should consist of all the determinations of education, the process of teaching along with its approaches that focuses on the product in addition to the process and evaluation of the results (Hok-Chun K., Dennis, 2002). It acts as a weapon to meet 'competition' which is considered as a daring reality in the field of education, which requires an effective curriculum. If the educational institutions improve the existing curriculums as per changing environments, they can be able to survive in the market for a long period and also there is no need to face the falling enrolment rate of the students which is a big challenge. Inappropriate design of curriculum is a main cause for quality failure. The process of curriculum design should be clearly defined and teamwork should be encouraged in order to generate a need based curriculum of the customers i.e. our students (Sallis E., 2002).

**IMPROVEMENTS IN DEPARTMENTS: GRASS-ROOTS IMPROVEMENTS:** In order to make TQM a successful strategy, now a days, the educational institutions are implementing TQM techniques from the root level. This is because the colleges and universities instrument the projects but the initial commitment to accomplish TQM should be from top management or higher officials like President/ Chancellor/ Vice Chancellor etc. These officials play a vital role in determining the quality culture of education and are considered as the originator of quality teaching initiatives. These leaders are responsible for conveying the organizational information to the entire community for achieving a quality culture (Institutional Management in Higher Education, OECD). These leaders are also acts as a guardian to the students who are learning in their care (Oduro G. K., Dachi H. & et al., 2008).

**COURSE AND METHODOLOGY IMPROVEMENTS:** In past days, Newton said that he was 'like a child, who is picking pebbles at sea-shore while the great ocean of knowledge lies before me'. From that period, knowledge gained importance immensely than human capability in a wide range to compete with it (Role of Education in 21st Century, 2012). In today's world, education is an area that deserves big investment. During the period of ancient India, Vidya or knowledge or education was considered as the "third eye" of man that affords him an understanding of all affairs (Mutsotso S. N., Abenga E. S., 2010). Traditional teaching consists of a teacher who controls the entire learning environment with extreme power. The role of a teacher is an instructor who gives the lectures and he/she also acts as a decision maker by formulating the contents of curriculum and by deciding other learning substances (Novak, J., 1998). But the methodology of modern teaching is mostly student-oriented. According to Jim Scrivener, the vital role of a teacher is to "help learning to happen," which comprises of "involving" students in what is going on "by allowing them to work as their own at their own speed, by not giving lengthy explanations, by boosting them to participate, talk, interact, perform things, etc". Changes that are occurred in the modern education compared to traditional education are: Firstly, Open educational concept came into existence. With the use of internet, radio, television etc. many keen learners have an opportunity to learn in order to alter their carrier. Secondly, the association between an individual teacher and student has been transformed into teachers and students, students and teaching resources, students and students. Thirdly, information technology has a vital role in determining the present and future of the existing level of education. With the use of modern educational technology extensively, personalized learning gained importance for rapid development. Fourthly, life-long and continuous education is likely through technology of modern education. In the process of continuous education, trainees study the advanced and current courses actively (Long L., Zhaohui L. & et al., 2008).

The new philosophy and principles have gained importance from central to international educational reform efforts in nations like Canada, Australia, Japan, the United States and the United Kingdom, Wiklund, Klefsjo, Wiklund and Edvardsson, (2003). The attraction of TQM philosophy is mostly due to its successful record in the business world in creating quality products and services. Actually, TQM provides an

organized and complete system of delivery through which improvements in education can be made, Wiklund and Edvardsson (2003). TQM identifies students as both customers and employees of the education system, Maria Fredriksson, (1992). Hence the students' roles should be identified by making them to involve them in their own process of learning. Additionally, evaluation of students in TQM is very essential and should be present in their entire studies so that remedial measures may be imposed continuously (Weaver, 1992).

### Earlier efforts of implementation of TQM in education

TQM in education appeared in 1988 at Mt. Edgcombe High School in Sitka, Alaska When David Langford the technology teacher/coordinator of schools, which practiced total quality techniques in his classes. The popularity for TQM has increased gradually in education, as demonstrated by the plethora of books and journal articles since 1990. TQM has also spread to mainstream of educational organizations. Supporting the initiatives of TQM in education, Crawford and Shutler (1999) applied Crosby model to recommend a practical strategy for implementing principles of TQM in education. Their strategy focused on the quality of teaching system used rather than on students, examination results. They argue that examinations are a diagnostic tool for assuring the quality of the teaching system. To satisfy the educational needs of students, continuous improvement efforts need to be directed to curriculum and delivery services. From such a perspective, various root causes of quality system failure in education have been identified. These comprise of less inputs, poor services of delivery, lack of consideration of performance standards and capacities, unenthusiastic staff and negligence of students' skill, Ali and Zairi (2005).

### Challenges in implementing TQM in education

There is clear evidence that TQM possess full potential to serve education. There are many challenges or barriers in implementing TQM techniques in education. Some educators considered that the philosophy of TQM is formulated for only business and is not suitable for service organizations such as educational institutions. The characteristics of the academic institutions differ from businesses which made difficult and even impossible to introduce TQM techniques which are been derived from industry. Product, client, empowerment, strategy and reengineering do not easily match in higher education institutions.

The biggest obstacle in implementing TQM is the assurance from the parties who are involved in the educational system, particularly the top management and teachers. This means poor commitment from the top management has a negative effect on TQM efforts, which results in the failure of TQM application. Massy stated that the extreme improvement process in quality should come from all the levels of the organization and if mainly professors who think TQM as just other business-oriented strategy; this typical mindset may reduce the efficiency of TQM in education. The role of an individual, mainly the teachers are considered as informal and less administrative in traditional system of education. Alternatively, it is also observed that TQM approach is considered as more managerial and organizational; there is a propensity to create persistent meetings, generate huge amounts of paper, and postpone or escape critical decision making.

The term customer seems to be very easy to define in manufacturing or business organizations but it defining and recognizing it in the field of education is considered as a challenge. The variations in identifying the customers create several difficulties in the implementation process of TQM. In general, definition of a customer is based on their needs and expectations but in the context of education, there are any dimensions i.e. parties. In the instance of elementary and high school level, parents are considered as customers and students are consumers and they are easily defined. But it is found that the customers of higher educational level are varied and cannot be easily defined and it is very difficult in the case of tertiary level of education. In this situation, a student is termed as both the consumer and customer if the tuition fee is paid by him/her. In the job market, employer organizations are also considered as the customers. In the context of scholarship students, sponsors are defined as the customers. Many other reasons like difficulties to change, lack of commitment from administration, more investment of time because of personal training, difficulties in applying TQM tools to higher educational institutions, insufficient experience of team leaders and staff in teamwork are identified for ineffective application of TQM in higher education.

In addition to the above, there are many other reasons like lost in focus, i.e. TQM concentrates more on non-academic activities like bill collection, check writing, applications of admissions, and physical plant inventory than on core academic activities like development of course curriculum; teaching and learning styles, tuition fees, student welfare etc. The conflicts among faculty members also affect the implementation of TQM as it obstructs their authority and freedom; interrupt the confidentiality that is associated with their assessment, promotion, salary and teamwork in education process as these are not reliable with the traditional teaching process. Lack of appropriate channels for effective communication, inappropriate organizational structure; problems in measuring the results of educational institutions, lack of clarity in their goals and objectives, increase of individualism that leads to internal competition, the bureaucratic decision-making process, inadequate training of staff, lack of strong leadership and lack of ability of employees to involve in formulating and implementing the ideas and principles are also considered as major barriers for implementation of TQM principles.

### Steps for effective TQM implementation

Basically, TQM is based on a business philosophy which concentrates on standards related to all phases of work. Although people commit mistakes, most of them are caused and accepted due to defective systems or processes. It is necessary for the businesses to try to fix such problems by finding their root causes and eliminating them from the management process, and recurrence can be prohibited by altering the process.

Hence, there are eight steps that are to be followed by every person in an organization for an effective implementation of TQM principles. They are:

- 1) **Identify the need for a change:** The success of TQM process depends on the people of an organization who encourage making the change happens. If your organization is highly approachable to new ideas, then it is easy to adopt TQM in such system. But if the system is highly traditional system that is based on particular principles, then the implementation of TQM principles must be delayed until the changes are made according to modern system. In such case, it is better to sell them as a solution in the unsettled environment.
- 2) **Clarify the vision and mission with the management employees:** TQM is a combined process that means it requires coordination and cooperation of all employees in order to implement it successfully. A proper communication channel should be maintained from the

management board and the executives to the department heads and rank and file to make sure everybody is informed about their role in the TQM process.

- 3) **Survey key customer groups:** It is very essential to identify the key customers in order to know their needs and wants that are required for improvement of an existing plan.

For the identification of customers, the customer groups which are included in the existing business plan can be examined. These groups can be employees, suppliers, vendors, volunteers, financiers, customers etc. Any complaints from these groups are used to generate solutions for the problems that are being faced by the organization.

4) **Identify Critical Success Factors (CSF):** Critical Success Factors are termed as little measures that enable the employees to measure the overall goal. In order to guide the employees towards the organizational goal, care should be taken not only regarding the success of TQM but also on its effective implementation. For this, some tools are required to plan each organizational action. In addition, the CSF should consist of some actions that can be easily measured. They are quantity sold, Number of Closed Deals per Day, Customer Calls answered per Day (reduced dropped call rates), Market Share, Improved Balance Sheet Figures, Customer Complaints (number).

5) **Map out major and sub – processes:** As explained above, TQM process involves continuous improvement in all levels of organization. In each process, there are several sub processes involved which leads to next process. This means, customer satisfaction can be improved through a process whereas through sub – processes, rate of dropped calls can be reduced, the sales can be improved along with on – purchase bonuses and benefits etc.

6) **Train and re – train employees:** As the employees of an organization and their participation in TQM activities are responsible for its success, training of employees is very essential to make them learn about new structure and strategies. Hence, the TQM processes enable the internal workers of an organization to follow the training given by outside consultants. In addition, the role and duties of every employee and their relationship with the consultants are to be clearly defined and specified.

7) **Develop an improvement plan:** A clear map of processes is required for successful implementation of TQM. An effective plan should consist of some basic fundamentals to make it a successful plan. Firstly, the plan should follow the popular SMART format. In addition, it should also contain a draft to transition the TQM ideas to functions and duties for employees, leadership Development and Training (inspire the movement), process improvement initiatives and development, staff Training in the area of quality of customer service, performance Evaluation Techniques which help to monitor and ensure jobs are executed in line with the specifications.

8) **Measure and Report:** In the end of the process, the report on the success of TQM depends on the measurements that are involved in the process which enable to know the performance of the strategy in critical areas like purchasing, hiring and diversifying. It is also necessary to measure the process to decide whether any improvements or adjustments are to be made. Measuring is also considered as a key to find out the changes made by the organization in some important issues. This data is useful to attain new customers along with giving credits to the employees which in turn encourages and motivate them towards their work.

## Conclusion

This study does not suggest or explain any framework or guidelines for making TQM implementation a successful task, but it explains the role and necessity of TQM in improving quality of education. This study also explains the steps to be followed in implementation of TQM techniques along with the challenges to be faced during its implementation.

The Indian educational system had undergone many challenging situations during post Indian Independence period but still they achieved well progress through many improvements in all aspects. The authorities like UGC, AICTE, QCI, DEC, and BCI are involved in the management of education system which seriously put efforts in improving in the quality of education in order to meet the standards of international educational norms. TQM enable an educational institution to accomplish excellence which is essential for every institution to survive in a highly competitive world. The future of our economic system as well as our nation is directly depended on our capability to create and maintain high quality in our education system. India can be able to extend its boundaries of knowledge in all aspects if an appropriate and essential recognition and support is provided.

Application of Total Quality Management techniques in both public and private sector education enables an organization to obtain better results in all the fields of education processes. This is considered as an excellent technique in management as it resulted in excellent outcomes in industrial and business organizations. It acts as a resource for high customer satisfaction. It is highly depended on participatory management philosophy which believes in the process of continuous improvement with the efforts of all organizational employees. TQM philosophy enables and encourages students, teachers and employees to enhance their organizational performance. A school or a college can attain better services from TQM techniques which in turn can provide them to its primary customers, students and employees. Through focusing on the continuous improvement of TQM, the requirements can be effectively fulfilled. Operating a no-fear system of TQM that focus on continuous growth and improvement gives more excitement and challenge to students and teachers than a "good-enough" learning environment provide.

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