

## **A Study of the Total Quality Management in Colleges of Education in Greater Mumbai.**

**Seema S. Lokhande**

Lecturer, St.John's Teachers Training School,  
(D.El.Ed.), Goregaon.

**Dr. Hemlata Chari**

Deputy Director (academic) IDOL,  
University of Mumbai

---

### **ABSTRACT:**

Total Quality Management (TQM) has occupied a strong place in educational field and emerged as a methodology for organization improvement, waste reduction, professional optimization and quality management. Customer- satisfaction and Continuous improvement activities is at the heart of TQM. This paper discusses the TQM of colleges of education and how TQM influenced by gender, experience and type of institution. Descriptive method was used for the research study, the methodology encompassed five point Likert rating scale at 28 educational institutions. The data was collected from 150 teacher educators and 28 principals of colleges of education from Greater Mumbai. Four stage sampling technique has been used. Data is analyzed using one-way anova and t-test.

Findings of the study indicate significant difference between the TQM as perceived by teacher educators and gender of principals of colleges of education based on Infrastructure facilities and Student support and progression. Furthermore it shows significant difference between the T.Q.M as perceived by teacher educators in the colleges of education and type of institutions on the criteria of: Organization and management; Teaching, learning and evaluation; student support and progression.

### **INTRODUCTION**

The globalization of education, global competition, and rapidly developing technology, nature of the learner, course content, and migration of students from rural to semi urban and urban areas has made the concept of quality an essential requirement of the educational process for its success and survival of the institution. Hence there is a need to encourage through positive attitude to implement quality teaching and learning in the management of an institution.

The concept of Total Quality Management (TQM) and the strategies of quality improvement are derived from industrial settings. Importance of TQM is not only limited to industrial purpose, but the demands and needs of today's world makes it applicable to academics also. Quality is the facet of a good institution of education. TQM provides strategies that facilitate adjusting of today's changing technological era. To bring TQM, the theories put forwarded by the eminent personalities like William Edwards Deming an originator of TQM concept, introduced the concept that 'quality' cannot be inspected but it has to be produced. (P.N. Mukherjee, total quality management, pp51, 2010) he suggested people oriented approach, total employee involvement, scientific knowledge of the product, process technology as well as the knowledge of the various quality improvement, tools and techniques leading to a greater market leadership, which helps in making a sound and healthy organization. Joseph Juran gave a holistic approach for all round business excellence known as 'Juran's triology'. In today's era, where we are facing a tremendous competition globally, Juran's triology seems to be the only alternative to endure and accomplish a global leadership position. Philip Crosby (1979) suggested that effective resources utilization is more important than the quantity of resources. And the other theory 'zero- defects' in which he suggested management that 'do it right the first time' this theory has been accepted worldwide. Genichi Taguchi (1950) developed a methodology for applying statistics to improve the quality of manufactured things. Taguchi's 'loss function' is used to measure financial loss to society resulting from poor quality. He introduced 'robust design' to improve the quality of product by minimizing the effects of variation without eradicating the causes which are too difficult or too expensive to control. These theories facilitate institutions to work within its financial plan, predetermined time limits and to institute a flexible design and infrastructure so as to enable the institution to fulfill changing societal demands.

For the success in TQM, it is crucial that the entire institution including managing committee, principal, teachers, students, non-teaching staff as well as parents and the community develop a continuous and shared commitment and dedication to quality. The first and utmost step, in this path is to develop a vision and mission for quality that stresses on the fulfillment of students

“needs”, community involvement in quality improvement and continuous improvement towards excellence in services in the form of teaching and learning strategies, evaluation process, infrastructure and educational products.

For an educational institution, its primary customer is the students and another important customer is the larger society. Hence it's very necessary to satisfy the customer's needs at improving the quality of an educational institution.

A total quality approach to running educational institutions is necessary for the following reasons:

We live in an extremely dynamic world with exhausting resources. Since educational institutions have to prepare learners to function to their fullest potential in such an atmosphere, then the educational institutions themselves must be dynamic and flexible. The expectations of students, parents, and the public in general vis avis educational priorities, costs, accessibility, programs, and relevancy, make it vital for educational institutions to undergo continual assessment and improvement of the institution. Economic conditions have created greater concern about economic well-being and career flexibility. Institutions have to respond to the real fear of career oldness and career inadequacy. Funding resources for education are diminishing at a rapid rate. Institutions have to find innovative ways of cutting costs without cutting quality. There is a false notion that quality is expensive. Quite the contrary, quality programs are very cost-efficient.

Hence to enhance the quality of institutions, they should be permitted to work as business enterprise. Assessment of the institution is the first step in TQM initiative. Besides indicating the relative strengths and weakness of an institution, such an assessment provides the baseline data on various aspects of the institution on which development could be built up.

So TQM can be summarized as a management system for a customer-focused organization that involves all staff personnel in continual improvement.

In the light of above discussion on TQM in educational setting if apply practically can activate the system of institution it will be the best possible assistance in achieving TQM In a wider extent bearing the best possible value to the students and the society on a grand scale. Participatory management among well trained and educated partners is crucial to the success of TQM in education, the leader and everyone involved must understand and believe in TQM.

## STATEMENT OF THE PROBLEM:

A Study of the Total Quality Management of Colleges of Education in Greater Mumbai.

## OPERATIONAL DEFINITIONS:

### TOTAL QUALITY MANAGEMENT

**a) Institutional goals and objectives:** It is the vision as stated by the colleges of education affiliated to Mumbai University of the institutions where mission is directed. It determines the end results of activities, programs and processes of a colleges of education.

**b) Teaching, learning and evaluation:** This criteria looks at the adequacy and competency of teacher educators as well the efficiency of the evaluation of the kind of activity planned like lesson practice, various projects and theoretical evaluation of students.

**c) Organization and management:** This aspect requires data on the policies and practices of the institutions in the matter of planning, human power requirement, recruitment, training etc.

**d) Infrastructure facilities:** This aspect is concerned with data on the adequacy and optimal use of facility available in the institutions to benefit students and teachers.

**e) Student support and progression:** It seeks information on the efforts of the institutions to provide the necessary assignment for good student experiences and to facilitate their progression. (These definitions are modified with reference to Khandagale Vidyanand, 2004)

## AIMS OF THE STUDY

To study the total quality management as perceived by teacher educators in colleges of education.

## OBJECTIVES OF THE STUDY:

i) To study the total quality management as perceived by teacher educators in colleges of education in terms of the following selected criteria:

- Institutional goals and objectives
- Organization and management
- Teaching, learning and evaluation
- Infrastructure facilities
- Student support and progression

ii) To study the total quality management as perceived by teacher educators in colleges of education based on gender of principal on the basis of:

- Institutional goals and objectives
- Organization and management
- Teaching, learning and evaluation
- Infrastructure facilities
- Student support and progress

iii) To compare the total quality management as perceived by teacher educators in college of education based on gender of principal on the basis of:

- a) Institutional goals and objectives
- b) Organization and management
- c) Teaching, learning and evaluation
- d) Infrastructure facilities
- e) Student support and progression

iv) To study the total quality management as perceived by teacher educators in the colleges of education based on experience of principals on the following criteria:

- a) Institutional goals and objectives
- b) Organization and management
- c) Teaching, learning and evaluation
- d) Infrastructure facilities
- e) Student support and progression

v) To compare the total quality management as perceived by teacher educators in the colleges of education based on experience of principals on the following criteria:

- a) Institutional goals and objectives
- b) Organization and management
- c) Teaching, learning and evaluation
- d) Infrastructure facilities
- e) Student support and progression

vi) To study the total quality management as perceived by teacher educators in the colleges of education based on type of institution on the following criteria:

- a) Institutional goals and objectives
- b) Organization and management
- c) Teaching, learning and evaluation
- d) Infrastructure facilities
- e) Student support and progression

vii) To compare the total quality management as perceived by teacher educators in the colleges of education based on type of institution on the following criteria:

- a) Institutional goals and objectives
- b) Organization and management
- c) Teaching, learning and evaluation
- d) Infrastructure facilities
- e) Student support and progression

### **HYPOTHESES:**

1) There is no significant difference in the TQM as perceived by teacher educators in the colleges of education based on the gender of principal on the following criteria:

- a) Institutional goals and objectives
- b) Organization and management
- c) Teaching, learning and evaluation
- d) Infrastructure facilities
- e) Student support and progression

2) There is no significant difference in the TQM as perceived by teacher educators in the colleges of education based on the experience of principal on the following criteria:

- a) Institutional goals and objectives
- b) Organization and management
- c) Teaching, learning and evaluation
- d) Infrastructure facilities
- e) Student support and progression

3) There is no significant difference in the TQM as perceived by teacher educators in the colleges of education based on the type of institution on the following criteria: `

- a) Institutional goals and objectives
- b) Organization and management
- c) Teaching, learning and evaluation
- d) Infrastructure facilities
- e) Student support and progression

### **SIGNIFICANCE OF THE STUDY:**

This study has indicated the work in order to get an overall picture of the current quality work of educational institutions. It will help the committee appointed by the Mumbai University to assess the quality of work of the academic institutions each year. Accordingly, this thesis is aimed to see where the quality work at this university stands today. The findings will be compared with a specific approach to find the weaknesses and strengths of the quality system of the educational institutions. It will motivate how to improve the quality of an academic institution.

In conclusion, the researcher is aimed to provide a complete over view in the context of quality which will facilitate academic institutions to satisfy its students, staff personnel, authorities as well as achieving the institutions vision and strategic goals. This gives an overview of the current status of TQM of colleges of education. This study shall assist the principals, managers of educational institutions by providing them with suggestions and help them in identifying the areas they need to improve in order to maintain quality. The findings of this study aims to provide a vision for the future in finding out which area is to be improved.

Researcher anticipates that this study shall provide the management with effective and useful tips on TQM. Besides, this study highlights the TQM in the light of findings in order to input quality education to students and help the organization to achieve its goal.

#### **RESEARCH METHODOLOGY:**

The present study is a descriptive research of the causal comparative type as it describes the current status of TQM. This investigation also deals to ascertaining whether experience of principal, gender of principal, and type of college affect TQM. Researcher used primary sources i.e. original sources which is first hand and reliable data collected by the researcher that has never previously been collected from colleges of education from greater Mumbai. The present study has adopted quantitative approach of research as it deals with Numerical data and statistical techniques of data analysis.

#### **SAMPLE:**

In the present study, the sample under study are the teacher educators of the colleges of education, affiliated with Mumbai University of Greater Mumbai, chosen from the source material or sampling frame i.e. a list of colleges of education which have been taken from Mumbai University.

#### **SAMPLE SIZE:**

Present research contains the total number of sample as 150 assist. Professors and 28 principals of colleges of education from greater Mumbai.

#### **METHODS OF SAMPLING**

In the present study, the researcher has selected sample method and adopted probability method where the samples were chosen randomly by giving every person a chance to be selected.

In this study, four stage sampling technique was used for selecting the sample.

In the first stage of sampling, the selections of colleges were done by the stratified random sampling technique. Greater Mumbai is divided into the strata or zone based on geographical location in Mumbai. Greater Mumbai is divided into three zones via; central, western and harbor based on railway line.

For the research purpose researcher selected all the colleges of education which falls under these zones. In all 28 colleges of education were selected.

At the second stage, colleges of education were selected using stratified random sampling, and the stratifying factor was colleges affiliated with Mumbai University and SNDT University. From which researcher selected colleges of education from Mumbai University only.

At the third stage, researcher selected colleges on the basis of type of colleges of education. As aided, unaided and government from which she selected all unaided and aided colleges of education.

At the fourth stage, all respondents as teacher educators were taken from the colleges of education.

The following table shows Details of the zone wise distribution of the sample

**Table-1**  
**Details of the zone wise distribution of the sample.**

Sr.no.	zone	No. of colleges of education	Sample-1 (teacher educators)	Sample-2 (principals)
1	Central Mumbai	9	43	9
2	Western Mumbai	15	89	15
3	Harbor Mumbai	4	18	4
	<b>total</b>	28	150	28

#### **SCOPE AND DELIMITATIONS OF THE STUDY:**

1) This study is limited to Total Quality Management in terms of:

- Institutional goals and objectives.
- Organization and management.
- Teaching, learning and evaluation
- Infrastructure facilities.
- Student support and progression.

2) This study is limited to teacher educators and principals of colleges of education of Mumbai University.

3) This study is limited to Greater Mumbai included central, harbour and western zones.



### DATA GATHERING TOOLS:

However, this work is purely of quantitative type, hence researcher made Rating Scales as a tool.

- A) Personal data sheet for the principals
- B) Tool of total quality management (TQM): Researcher has constructed and modified the tool (with the reference of VidyanandKhandagale. 2004. based on five factors)

### STATISTICAL TECHNIQUES OF DATA ANALYSIS AND INTERPRETATION.

Data was analyzed into two categories:

#### I Descriptive analysis of data:

Measures of central tendency: including the mean, median, and mode.

Measures of variability: including Standard deviation, Skewness and Kurtosis.

#### ii) Inferential analysis of data:

The one way anova and t-test techniques has been used for inferential data analysis.

The hypotheses was tested at 0.05 level of significance. In case of ANOVA where 'F' test refutes the null hypotheses, the researcher used the t-test to evaluate mean differences. If the 'F' test does not refute the null hypothesis, there is no justification for further testing at difference between pairs of means.

#### Testing of hypothesis - 1

1) There is no significant difference in the T.Q.M as perceived by teacher educators in the colleges of education based on gender of principal on the criteria of:

- a) Institutional goals and objectives
- b) Organization and management
- c) Teaching, learning and evaluation
- d) Infrastructure facilities
- e) Student support and progression.

**Table-2**  
**Summary of T.Q.M of the colleges of education based on gender of principals**

One way anova						
TQM Criteria	Gender	S S	df	M S	F	Sig.
Institutional goals and objectives	Between Groups	0.959	1	0.959	2.723	0.101
	Within Groups	52.127	148	0.352		
	Total	53.086	149			
Organization and management	Between Groups	0.228	1	0.228	0.853	0.357
	Within Groups	39.474	148	0.267		
	Total	39.701	149			
Teaching, learning and evaluation	Between Groups	1.053	1	1.053	2.636	0.107
	Within Groups	59.097	148	0.399		
	Total	60.15	149			
Infrastructure facilities	Between Groups	2.002	1	2.002	4.655	0.033
	Within Groups	63.662	148	0.43		
	Total	65.664	149			
Student support and progression	Between Groups	2.306	1	2.306	6.504	0.012
	Within Groups	52.48	148	0.355		
	Total	54.786	149			

**Table-3**  
**Summary of TQM of colleges of education based on gender of principals**

t-test								
TQM Criteria	Sample Size		Mean		S.D.		t-value P(T<=t) two-tail	Significant level
	Female	Male	Female	Male	Female	Male		
Infrastructure	98	52	65.35	70.98	11.60	8.38	0.0008	S
Student Support	98	52	64.43	68.90	10.74	8.73	0.0068	S

As per the above table, the 't' value for Infrastructure facilities and student support as a TQM criteria is 0.033 and 0.012 respectively, which is less than 0.05, hence the researcher rejected the null hypothesis. Therefore there is a significant difference in the Infrastructure facilities and Student support and progression in the colleges of education based on gender of principal. The male principals place higher importance on infrastructure facilities and Student support and progression as a criteria of TQM as compared to female principals of colleges of education.

2) There is no significant difference in the T.Q.M as perceived by teacher educators in the colleges of education based on experience of principals on the criteria of:

- Institutional goals and objectives
- Organization and management
- Teaching, learning and evaluation
- Infrastructure facilities
- Student support and progression

**Table-4**  
**Summary of TQM of colleges of education based on Experience of principals**

ONE WAY ANOVA						
TQM CRITERIA	EXPERIENCE	S S	DF	M S	F	SIG.
Institutional goals and objectives	Between Groups	0.106	1	0.106	0.28	0.598
	Within Groups	55.994	148	0.378		
	Total	56.1	149			
Organization and management	Between Groups	0.059	1	0.059	0.222	0.638
	Within Groups	39.642	148	0.268		
	Total	39.701	149			
Teaching, learning and evaluation	Between Groups	1.284	1	1.284	3.228	0.074
	Within Groups	58.866	148	0.398		
	Total	60.15	149			
Infrastructure facilities	Between Groups	1.125	1	1.125	2.581	0.11
	Within Groups	64.539	148	0.436		
	Total	65.664	149			
Student support and progression	Between Groups	0.197	1	0.197	0.535	0.466
	Within Groups	54.589	148	0.369		
	Total	54.786	149			

Findings of the study indicate that the difference between TQM as perceived by teacher educators in the colleges of education based on experience of principals is not significant on the criteria of: Institutional goals and objectives, Organization and management, Teaching, learning and evaluation, Infrastructure facilities, Student support and progression. Hence the null hypothesis is accepted.

3) There is no significant difference in the TQM as perceived by teacher educators in the colleges of education based on type of institution on the following criteria:

- Institutional goals and objectives
- Organization and management
- Teaching, learning and evaluation
- Infrastructure facilities
- Student support and progression

**Table-5**  
**Summary of TQM of colleges of education based on Type of institution**

ANOVA						
TQM CRITERIA	TYPE	S S	DF	M S	F	SIG.
Institutional goals and objectives	Between Groups	0.655	1	0.655	1.849	0.176
	Within Groups	52.425	148	0.354		
	Total	53.08	149			
Organization and management	Between Groups	1.438	1	1.438	5.563	0.02
	Within Groups	38.263	148	0.259		
	Total	39.701	149			
Teaching, learning and evaluation	Between Groups	2.77	1	2.77	7.15	0.008
	Within Groups	57.336	148	0.387		
	Total	60.105	149			
Infrastructure facilities	Between Groups	1.374	1	1.374	3.174	0.077
	Within Groups	64.07	148	0.433		
	Total	65.444	149			
Student support and progression	Between Groups	3.399	1	3.399	9.809	0.002
	Within Groups	51.286	148	0.347		
	Total	54.685	149			

**Table-6**  
**Summary of TQM of colleges of education based on Type of Institution**

t-test								
TQM Criteria	Sample Size		Mean		S.D.		t-value P(T<=t) two-tail	Significant level
	Aided	unaided	Aided	Unaided	Aided	Unaided		
Organization and management	104	46	75.65	70.65	10.62	11.50	0.01	S
Teaching, learning and evaluation	104	46	61.02	57.83	6.74	7.98	0.01	S
Student Support	104	46	69.85	64.27	8.22	10.67	0.0007	S

**Interpretation:**

The 't' value of organization and management; Teaching, learning and evaluation, student support and progression is 0.01, 0.01, 0.0007 respectively, which is less than 0.5 Hence researcher rejected hypothesis.

Therefore it shows the difference between the T.Q.M as perceived by teacher educators in the colleges of education based on type of institutions on the criteria of: Organization and management. Teaching, learning and evaluation, student support and progression is significant. Aided colleges of education have better organization and management; Teaching, learning and evaluation, student support and progression as compared to unaided colleges of education.

**CONCLUSIONS AND DISCUSSIONS OF STUDY:**

1) Findings showed that for variable TQM as perceived by teacher educators in the colleges of education did not show significant difference on the basis of gender. With respect to Institutional goals and objectives, Organization and management, Teaching, learning and evaluation.

Every institutional head irrespective of gender wanted to achieve the best out of their students and the staff personnel. Hence institutional goals and objectives as a criteria of TQM does not affect the gender. Whereas it is significant with respect to Infrastructure facilities and Student support and progression. The observed difference may be due to difference in the sample size of each group.

2. Findings of the study revealed that TQM as perceived by teacher educators in the colleges of education is not influenced by experience of principals, with respect to: Institutional goals and objectives, Organization and management, Teaching, learning and evaluation, Infrastructure facilities, Student support and progression.

Younger principals tend to feel enthusiastic with their novel knowledge experience. They are ready to bring novel and positive changes in the college. They are also under constant pressure; hence they are required to do their work effectively and efficiently in the institution. They have to prove themselves unlike the older principals who have already proved themselves.

Therefore difference in their work experience does not affect TQM in terms of; a) Institutional goals and objectives b) Organization and management c) Teaching, learning and evaluation d) Infrastructure facilities and e) Student support and progression.

3) Findings showed that for variable T.Q.M perceptions of teacher educators in the colleges of education did not show significant difference with respect to type of institutions on the criteria of: Institutional goals and objectives, and infrastructure facilities.

Every institution irrespective of type have approximately the same aims and objectives, as wants to achieve the best.

Hence the criteria of Institutional goals and objectives, Student support and progression of the TQM of the institution does not get affected by the type of institution (aided/unaided).

Whereas, it shows significant effect on the criteria of: Organization and management. And Teaching, learning and evaluation, and student support and progression. This is because, unaided institutions most of the time lack qualified teacher educators, hence the performance of the teacher educators of both the institution gets affected by Teaching, learning and evaluation.

Also most of the unaided institutions give more flexibility to the students in the rules and regulations of the institution as compared to aided colleges of education. Hence organization and management, Student support and progression as a criteria of TQM get affected by type of institution.

## References

- AlexandrosPsyncogios G. (2007). Understanding TQM in context: Qualitative research on manager's awareness of TQM aspects in the Greek service industry. The University of Sheffield, Thessaloniki, Greece: *The qualitative report* vol.12 no.1 pp.40-46.
- Best, T. and Kahan, J. (2003). *Research in Education*. New Delhi: Prentice Hall of India Pvt. Ltd.
- Bhagat Sanjay V. (2004) *A study of the in service training of nonteaching staff in Relation to quality management of educational institutions*. Unpublished dissertation, University of Mumbai, Mumbai.
- Buch, M.B. (ed.) *Fifth survey of education*. vol.I (1988-1992); New Delhi: NCERT.
- Buch, M.B. (ed.) *Fifth survey of education*. vol.II (1992-20020); New Delhi: NCERT.
- Kalyankar C.B. (2007): *process quality management for student empowerment at the secondary level of education*. Unpublished Doctoral Thesis, Mumbai University, Mumbai.
- Cohen, L. (1985). *Research methods in education*. London: Routledge.
- Besterfield D.H., Besterfield C.M., Besterfield G.H. (2003). 3rd edition: *Total Quality Management*, New Delhi: Dorling Kindersley Pvt. Ltd.
- Donnelly, J.H. Ivancevich, J. M. Gibson, J.L. (1985) *Organizations: behavior, structure, processes* 5th Ed. Plano, TX: Business Publications Inc. p362.
- Garrette, H.E. woodworth, R.S. (1980). *Statistics in psychology and Education*. Mumbai: Vakilefferrand Simons Ltd.
- Kanji G.K., Mike Asher. (1996). *Hundred methods for Total Quality Management*. New Delhi: A Sage of publications India Pvt. Ltd.
- Najafabadi H.N., Sadeghi S.S., Habibzadeh P. : (2008). *Total Quality Management in Higher Education. Case study: Quality in practice at University College of North house, P.G. Leadership: Theory and Practice*, New Delhi. Response Books, a division of Sage Publications; 2003.
- Dew J. R. (1999), Molly McGowan Nearing. *Continuous Quality Improvement in Higher Education*. Chennai: Multivista Global Ltd.
- Saxena J., Saxena M., Sandya Gihar. *Quality Education*. New Delhi: A.P.H. Publishing Corporation.
- Koul L. (2007) *Methodology of Educational Research*. Vikas Publishing House Pvt. Ltd., New Delhi.
- Khandagale V. (2004): *A study of Quality management of secondary schools of greater Mumbai*. Unpublished M.Ed Dissertation, University of Mumbai. Mumbai.
- Lokhande S. (2008): *A study of an academic achievement of schools in relation to leadership styles of principals*. Unpublished M.ed Dissertation, SNDT University, Mumbai.
- Khandagale V. (2004): *A study of Quality management of secondary schools of greater Mumbai*. Unpublished M.Ed Dissertation, University of Mumbai. Mumbai.
- Lokhande S. (2008): *A study of an academic achievement of schools in relation to leadership styles of principals*. Unpublished M.ed Dissertation, SNDT University, Mumbai.

- Mansuri L.; Verma N. (2011). Drawing lessons from the implementation of CCE. Working towards Quality. NAAC Sponsored National Conference on *raising the bar: striving for quality*. Mumbai: Bombay Teachers Training College.
- Zaid M. (2011): *visionary leadership and organizational effectiveness in institutions of higher learning a case of Kyambogo University*. Dissertation of Master of Science, Uganda: in leadership and governance of Makerere University. <http://www.mubs.ac.ug/docs/masters/mlg/Visionary%20leadership%20and%20organizational%20effectiveness%20in%20institutions%20of%20higher%20learning.pdf>
- Mukhopadhyay, M. (2012). *Total quality management in education*. New Delhi: Sage publications India Pvt. Ltd.
- Mukherjee, P. (2010). *Total Quality Management*. New Delhi: PHI learning Pvt. Ltd.
- Kesavan R., Elanchezhian C., Vijaya B. (2008). *Total Quality Management*. New Delhi: I.K. International publishing house, Pvt. Ltd.
- Sallies, E. (1996). *Total quality management in education*. Panton villa road, London N19 1N; Kogan page Ltd.
- Wadikar S. (2011). Managing quality through Maintenance of Dossiers'. A case of MES'- Pillai College of education and research. Mumbai. NAAC Sponsored National Conference on *raising the bar: Striving for quality*. Colaba: Bombay Teachers Training College. Mumbai.
- Sharma D. (2001) *Quality Control Circles in Education. A feasibility study*. Unpublished M.Ed. Dissertation, Department of Management, SNDT Women's University, Mumbai.
- Chi W.H. (2007). *Applying Structural Equation Models to Study the Influence of Leadership, Total Quality Management and the Organizational Commitment*. Ph.D. Thesis, Department of Business Administration, Nation Dong Hwa University, Shou-Feng, Hualien 97401, Taiwan, Republic of China.

...