

Total Quality Management & Higher Educational Aspects: A Study Allied With Students' Awareness

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“I am forever learning & changing” – W. Edwards Deming

ABSTRACT - Quality is a great concern in many societies across the world. In an extremely competitive educational sector, the victory of academic institutions depends on the quality of education. Educationalists, policy makers, scholars, and researchers are showing their sincere interest towards the total quality management as it is recognized as an effective management philosophy for continuous improvement, customer satisfaction, and organizational excellence. Since this concept was initially developed in the manufacturing sector, there is a great deal of suspicion whether this philosophy which is related in education. The primary purpose of TQM is to serve the customer better. One of the most important customers of a college or university is the firms that hire the school graduates. In this connection, the main objective of this study is to examine the compatibility of TQM with education and this paper concentrates on the students' awareness towards educational aspects followed in their institution. This study has considered top colleges based on NIRF ranking, respondents has been selected randomly and selective tools has been applied to derive a positive finish. It is implicit that this study would be capable to depict a meaningful conclusion regarding the applicability of TQM in education and to create awareness about the educational aspects to the students.

KEYWORDS: Total Quality, course objective, assessment, improvement etc.,

I. INTRODUCTION

Education is the backbone of our nation. It is a tool to national human resource development. Listed amongst the fastest rising economies in the world, India stands way behind in the line, when it comes to education. Low quality education is putting down India's growth to cope with the demands of the 21st century economy. It is broadly observed that students prefer learning mechanically than getting imbibed with the concepts. In the hope of reaping India's demographic dividend, our government has prioritized skill development. The UPA government established the National Skill Development Corporation in 2008, with the target of skilling 500 million youth by 2022^[1]. Education is about teaching, learning skills and knowledge. Education also means serving people to learn how to do things and encouraging them to think about what they learn. It is also vital for educators to teach ways to find and use information.

II. TOTAL QUALITY MANAGEMENT

Total quality management is recognized as an effective management philosophy which is used as a strategy for business excellence. Although the concept of total quality management was initiated by Dr. Edward Deming in the late 1950's in the USA; however Japan was the first nation who holds tight with this concept to recover their economy after World War II. The victory of TQM in Japan made this concept famous in many countries across the world. Originally, the concept was developed for manufacturing organizations; later on, it gained popularity to other service institutions, including bank, insurance, non-profit organizations, and health care and so on. Lunenberg comments that TQM is also relevant to corporations, service organizations, universities and elementary and secondary schools^[2]. Now, TQM is identified as a generic management tool and applicable to any organization. In brief, TQM is the management of quality throughout all

members of organization. The organization must satisfy internal and external customer needs and then use strategic planning including all functional areas to achieve strategic goals^[3]

QUALITY IN HIGHER EDUCATION

The quality in education want to be defined in the wider sense of the overall aim of education as the all round development of the individual and his commitment to societal objectives; and viewed in this context, there is no doubt that vigorous efforts will have to be made to improve these to suit the changing needs of the country. It has become more and more evident that the relevance of education, its significance, its validity for personal aspiration, its link with societal needs and goals, its efficiency and impact are the essential parameters of every educational system. Quality in education can also be understood by from a different viewpoint; it means educational standards are judged from examination results. An educational institution that shows high pass percentage is considered to be an institute of great quality^[4].

PRINCIPLES OF TQM

Deming^[5] created 14 points which provide a framework to developing knowledge in the workplace and can be used to guide long term business plans and aims. The points comprise not so much an action plan as a philosophical code for management. They have been broadly construed by as many commentators on quality, as on other management disciplines.

1. Constancy of Purpose
2. Cease Dependence on Inspection
3. End Grading Practice
4. Continually Seek Out Problems
5. Institute Training
6. Institute Supervision
7. Drive Out Fear
8. Break Down Barriers
9. Eliminate Exhortations
10. Eliminate Targets
11. Pride of Workmanship
12. Institute Education
13. The Transformation is Everyone's Job

TQM IN HIGHER EDUCATION

Total Quality Management (TQM) is an insight, which educational institutions can only attain through long period of planning, by the formulation and implementation of annual quality program, which considerably moves towards the accomplishment of the vision. Application of TQM concepts is one of such degree, which will go a long way in revitalizing the higher education system. Total Quality Management has turned out to be a key management tool that is currently driving today's industry. Institutions of higher learning have now begun to retrace the educational process and the application of TQM principles in academia. In management education course like MBA, where various concepts like management, leadership, TQM are educated to the students, the chance of knowing how to apply the concepts is less in many institutions. It is very unpleasant that the place where TQM is taught it is not practiced. When it is not practiced the learning method is at stake.

TQM in higher education is a process that connect the institutions by adopting a total quality approach to the entire academic process and environment (i.e. try to step forward the quality of teaching and in the process, the students' meaningful learning in every possible way) so that the needs of the students and those of their employers are finely served. It is the never ending chase of continuous improvement in the quality of education provided to the students and the satisfaction of the other stakeholders. Efforts to adopt the total quality management (TQM) philosophy are spreading to institutions of higher learning. The primary purpose of TQM is to serve the customer better. One of the most important customers of a college or university is the firms that hire the school graduates^[6].

STATEMENT OF THE PROBLEM

Education is the backbone of each and every individual, without education everything becomes impossible. But, there were number of environmental forces which make a driving change in the country & in higher education. Quality is expected in all the aspects, this study is also focused on quality education and its effectiveness in the educational institutions which is to be a continuous process. The present day education system and methods should match with the 14 principles given by W. Edward Deming

to achieve quality in higher education. Total Quality Management facilitates to achieve the relationship between students and teachers in education and to know the students awareness towards the quality of education given in their institution. The development of a quality system is based on TQM philosophy that integrates key element of quality management that will have a wider application for institution of higher learning. At the same time it is difficult to know the quality since the education is intangible and also there are no well defined procedures and system to check the quality in education. It is difficult in identifying the useful and effective monitoring and evaluation systems as the basis for management information. Total Quality Management failed to establish a model that ensures the integration of quality management in education. The basic questions that arise in the problem statement when discussing the quality of education in TQM are as follows:

- ✓ On what level are the students aware of the courses and programs offered by their institutions

OBJECTIVE OF THE STUDY

- ❖ As one of the NAAC criteria is based on student support and progression the study is based on student's awareness towards the educational aspects (such as: objective of the course, assessment pattern, infrastructure, extracurricular activities etc..) followed in their institution

SCOPE OF THE STUDY

This study provides an overview of the higher education in Coimbatore city. Students are the primary customers in education. They involve in different roles, they are the product of the process, the internal customer for campus facilities, the laborers of the learning process, the internal customer of the delivery of the course material. This study investigates the compatibility of Total Quality Management with education. The voyage is accomplished with commitment to constantly and systematically improving the teaching-learning productions.^[7] The study aims to reach a deeper understanding of quality management, quality systems and quality mechanisms in higher education which include the integration of quality assurance and development with planning and resource allocation. The study is concerned with moving the focus of control from

the outside to the inside where every individual is accountable for their own performance and continuous improvement.

III. RESEARCH METHODOLOGY

- ✓ **AREA OF STUDY**-The study has been conducted at the higher educational institutions in Coimbatore City. It focuses mainly on students of arts and science colleges in Coimbatore City.
- ✓ **SOURCE OF INFORMATION**-Information is collected through both Primary data and Secondary data. Primary data is collected through structured questionnaire. Secondary data is collected from websites, journals and magazines.
- ✓ **SAMPLE SIZE**-The number of samples considered for the study is 120 respondents. The data has been collected from the top 10 Arts and Science Colleges of Coimbatore City on the basis of NIRF ranking. Hence the questionnaire has been collected from 12 students per college in the ratio of 12:1.
- ✓ **SAMPLING TECHNIQUE**-This is a Purposive study and quota sampling technique has been used. After various measures the study comes out with the judgment that is to consider and to analyze the TQM in higher educational institutions. As Deming is called the Father of TQM, the present study is been followed with Deming's 14 principles which is now applied in higher educational institutions. When it comes to higher educational institutions it has been classified into Arts and Science colleges and Engineering colleges. This study aims in identifying all Arts and Science colleges in Coimbatore city, hence colleges affiliated to Bharathiar university has been selected, out of which 44 higher educational institutions were found from that, during 2017-2018 academic year, based on MHRD guidelines and NIRF rankings status top 10 colleges / higher educational institutions were considered. As the study focuses on students' awareness towards the educational aspects such as: course syllabus/knowledge about the course, assessment pattern, infrastructure, library facilities, extracurricular etc., which is been followed in their educational institution, the respondents for the study have been selected from the above said Higher

Educational Institutions. Since the present objective is based on students awareness these 14 principles will not be given much importance in this paper instead students' awareness towards the educational aspects (such as: objective of the course, assessment pattern, infrastructure, extracurricular activities etc..) followed in their institution will be given importance since "student support and progression" is one of the criteria of the NAAC.

TOOLS & TECHNIQUES

Various tools and techniques has been used for the analysis in the study, they are as follows:

1. Percentage analysis,
2. Descriptive analysis,
3. ANOVA
4. t-test

LIMITATIONS

- 1) It is unaware whether the data collected from the respondents is genuine.
- 2) It was difficult to collect data since most of the respondents were not aware of the principles of TQM but were familiar with those concepts.
- 3) The area of study was restricted to Coimbatore city and the sample size is comparatively less for the study.

IV. REVIEW OF LITERATURE

Aaron Paul. M. Pineda (2013) ^[8] in the article "Total Quality Management in Educational Institution: Influences on Customer Satisfaction" has made an attempt to study the quality management practices in the educational institutions in the kingdom of Bahrain specifically in the areas of institution, infrastructure and student services. The Descriptive Survey method of research was used in this study. This method was appropriate since the respondents or subjects were taken as specific groups falling in the same category. The study samples comprised of 55 professionals. 40 of whom were from the Manama area, and 15 of whom were from the Salmabad area. There were 200 students with 100 students from each of the two areas. The purposive sampling technique was used. The researcher concludes that it has been found from the result of the study of the

total quality management practices of the schools in kingdom of Bahrain ranged from very good to excellent, the levels of effectiveness ranged from average to very high, resulting acceptance of the hypothesis.

Barlow Soper et.al (1997) ^[9] in their article "Total Quality Management in education", have considered TQM, the current private industry remedy for organizational skills has been adopted in many educational institutions as a "magic bullet" for enhancing the institutions accomplishment in such areas as employee relations budgeting performance. He also said about shaping, setting sub goals in shaping, and strategy for administrations. The problem for educations is not that business models and techniques such as TQM and benchmarking are not appropriate for education as suggested by some individuals, but that occasionally the organizational models conceived in industry are somewhat simplified and this has direct consequences for other areas of application, including the public and education.

Kathleen Cotton (1994) ^[10] in the article "Applying Total Quality Management to Secondary Education" has made an attempt to identify whether there is a preplanned curriculum, whether students are carefully oriented to lessons, whether the instruction is clear and focused, whether there is personal interactions between teachers and students. It has been found from the results of the study that the instruction is guided by a preplanned curriculum, students are carefully oriented to lessons, instruction is clearly focused, personal interactions between students and teachers are positive.

Dr. T. Sudha (2013) ^[11] in her article "Total Quality Management in Higher Education Institutions" has made an attempt highlights the essence of TQM and explains how higher education institutions can improve the quality by implementing TQM principles, to discuss the importance of quality in higher education institutions, to know the actions required for implementation of TQM principles and to determine the success of TQM actions through various measures. The data is collected through primary and secondary sources. A sample of 220 respondents selected through convenient random sampling. It has been found

from the results of the study's finding is that higher Education system needs to be strengthened.

V. ANALYSIS AND FINDINGS OF THE STUDY

1. PERCENTAGE ANALYSIS

Demographic profile of the respondents

Particulars	No. of Respondents	Percentage
Gender		
Male	46	38.3
Female	74	61.7
Total	120	100.0
Age		
17-19 years	42	35.0
20-22 years	65	54.2
23-25 years	13	10.8
Total	120	100.0
Family Income		
Less than Rs.25,000	22	18.3
Rs.25,001-Rs.50,000	28	23.3
Rs.50,001-Rs.75,000	27	22.5
Rs.75,001-Rs.1,00,000	17	14.2
More than Rs.1,00,000	26	21.7
Total	120	100.0
Residential Area		
Urban	68	56.7
Semi-Urban	28	23.3
Rural	24	20.0
Total	120	100.0
Educational level		
Under Graduate	79	65.8
Post Graduate	37	30.8
Research Scholar(M.PHIL/PH.D)	3	2.5
Others	1	0.8
Total	120	100.0
Residential Status		
Hostel	54	45.0
Day scholar	66	55.0
Total	120	100.0
First Graduate in family		
Yes	50	41.7
No	70	58.3
Total	120	100.0
Year of Degree		
1 st year	30	25.0
2 nd year	29	24.2
3 rd year	61	50.8
Total	120	100.0

(Source: Primary)

The above table shows that; Most (61.7%) of respondents are female, who (54.2%) belong to the age group of 20-22 years, where they reside in (56.7%) Urban area and (23.3%) earn a family income of Rs.25, 001 - Rs.50, 000. Most of them (65.8%) are Under Graduates as well as (55.0%) Day Scholars, pursuing (50.8%) 3rd year degree and they (58.3%) are not first Graduates in their family

2. DESCRIPTIVE STATISTICS

Level of Awareness on the educational aspects followed in the institution.

Educational aspects	N	Minimum	Maximum	Mean	Std. Deviation
Objectives of the course	120	1	3	2.69	0.499
Details of the course assessment	120	1	3	2.38	0.597
Internal marks	120	1	3	2.62	0.611
Pleasant physical environment	120	1	3	2.55	0.578
Adequacy of labs	120	1	3	2.53	0.579
College has well updated library	120	1	3	2.45	0.606
Extracurricular activities	120	1	3	2.54	0.593
Student welfare associations	120	1	3	2.40	0.627
Add on courses	120	1	5	2.65	0.752

(Source: computed)

A three point rating scale ranging from 1 to 3 where 1 for not aware 2 for moderately aware and 3 for aware has been constructed to obtain the opinion of the respondents on their level of awareness towards the educational aspects followed in their institution. From the mean ratings computed based upon the response of the respondents it is evident that most of them are aware about the educational aspects followed in the institution namely, 'objectives of the course' (mean 2.69), 'add on courses' (mean 2.65), 'internal marks' (mean 2.62), 'pleasant physical environment' (mean 2.55) 'extracurricular activities' (mean 2.54), 'adequacy of labs' (mean 2.53), 'college has well updated library' (mean 2.45), 'student welfare associations' (mean 2.40) and 'details of the course assessment' (mean 2.38).

Therefore, based on the high mean rating it has been concluded that most of the respondents are aware of all the educational aspects followed in their institution.

3. ANOVA

Awareness score about educational aspects in TQM Vs Demographic variable

H₀: There is no significant difference between the awareness of educational variables and demographic factors such as age, family income, residential area, educational level and year of degree.

S.NO	Particulars	Factors	Satisfaction			Table value	F - Values	Sig
			N	Mean	SD			
1	Age	17-19 years	42	2.51	.291	3.07	.780	NS
		20-22 years	65	2.54	.289			
		23-25 years	13	2.62	.161			
2	Family Income	Less than Rs.25000	22	2.46	.284	2.45	1.195	NS
		Rs.25001-Rs.50000	28	2.49	.294			
		Rs.50001-Rs.75000	27	2.60	.273			
		Rs.75001-Rs.100000	17	2.60	.249			
		More than Rs.100001	26	2.53	.279			
3	Residential Area	Urban	68	2.53	.285	3.07	.007	NS
		Semi-urban	28	2.54	.265			
		Rural	24	2.54	.289			
4	Educational level	Under graduate	79	2.54	.283	2.68	.574	NS
		Post graduate	37	2.54	.279			
		Research scholar(M.PHIL/PH.D)	3	2.33	.192			
		Others	1	2.44	-			
5	Year of degree	1 st year	30	2.47	.285	3.07	1.083	NS
		2 nd year	29	2.56	.260			
		3 rd year	61	2.56	.284			

(Source: Computed) (NS – Not Significant)

AGE:

The F-ratio value has shown that there has been no significant difference in the respondents' level of awareness on educational aspects when they have been classified based on their age, thereby, the null hypothesis is accepted.

FAMILY INCOME:

It has been concluded with the F-ratio value that there is no significant difference in the mean awareness scores which proves that the respondents' level of awareness on educational aspects do not vary based on their family income. Hence the null hypothesis is accepted.

RESIDENTIAL AREA:

It has been inferred with the F-ratio that there is no significant difference in the respondents' level of awareness on educational aspects when they have been classified based on their residential area, thereby, the null hypothesis is accepted.

EDUCATIONAL LEVEL:

It has been found from the F-ratio value that there is no significant difference in the mean awareness scores which proves that the respondents' level of awareness on educational aspects do not vary based on their educational level. Hence the null hypothesis is accepted.

YEAR OF DEGREE:

The F-ratio value clearly shows that there is no significant difference in the mean awareness scores which proves that the respondents level of awareness on educational aspects do not vary based on their year of degree. Hence the null hypothesis is accepted.

4. T – test

H₀: There is no significant difference between the awareness scores about the educational aspects by the respondents classified based on demographic variables namely, gender and residential status.

Awareness towards the educational aspects followed in the institution vs. Demographic variables

Demographic variables		Awareness scores about educational aspects followed in their institution			Table value	T	Sig.
		Mean	SD	No.			
Gender	Male	2.52	.245	46	1.658	.564	NS
	Female	2.55	.299	74			
Residential status	Hostel	2.52	.226	54	1.658	.517	NS
	Day scholar	2.55	.317	66			
Total				120			

(Source: computed) (NS - Not Significant)

GENDER:

The t value suggests that there is no significant difference in the respondents' level of awareness about educational aspects when they are classified based on their gender. Thus, the hypothesis is accepted.

RESIDENTIAL STATUS:

There is no significant variation between the respondents' level of awareness about the educational aspects when they have been classified based on residential status. Thereby, the null hypothesis is accepted.

VI. SUGGESTIONS

1. Total Quality Management must be implemented in all the higher education institutions since there is heavy competition among the institutions.
2. The study suggests that sports and extracurricular activities must be improved in the higher education institution since most of the respondents are dissatisfied with this aspect.
3. The study recommends that students must be made aware of the course assessment methods.
4. The students should be given career guidance programs.
5. The study propounds that student welfare associations must be given more importance.

VII. CONCLUSION

Application of Total Quality management in education will give better results in every aspect of the process of education. Most of the respondents are aware of the

objectives of the course, internal marks and they agree that their teacher is approachable and friendly. The students are able to take up responsibilities and finish it successfully. Most of the respondents have been satisfied with the infrastructure of the institution like library facilities and lab facilities. The concept should be applied in all the higher education institutions in order to obtain perfection in education and that students enjoy learning. Implementation of Total Quality Management in education will bring equality in education. The students are aware of the courses and programs offered by their institution. The students are satisfied with the level of quality in education followed in their institution and they are ready to accept the application of Deming's Principles in education for the betterment of curriculum.

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