



## **TOTAL QUALITY CONCEPT: IMPLEMENTATION IN TEACHER TRAINING INSTITUTES OF PAKISTAN**

*Prof. Dr. Abid Hussain Ch.,*  
Institute of Education and Research,  
University of the Punjab, Lahore – Pakistan



Dr. Abid Hussain Ch. is Associate Professor at Department of Elementary Education, Institute of Education & Research, University of the Punjab, Lahore. He completed his Ph.D. in Elementary Education from University of the Punjab and Post Doctorate from University of Strathclyde Glasgow, Scotland. His areas of research and expertise are:

- (1) Micro & Micro Economics
- (2) Educational Assessment & Evaluation
- (3) Islamic Economic System
- (4) International Economics
- (5) Economic Planning & Development



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*Prof. Dr. Abid Hussain Ch.,*

Institute of Education and Research,  
University of the Punjab, Lahore – Pakistan

*Sadaf Jabeen,*

PhD Scholar, Institute of Education and Research,  
University of the Punjab, Lahore – Pakistan

### **ABSTRACT**

Implementation of total quality at different stages and levels of education is a daunting task not only in Pakistan but also all over the world. In recent years total quality management (TQM) has emerged as a viable solution to achieve the goal of quality. Although business organizations have applied TQM principles with considerable success, its use in teacher training institutes is largely limited and has received little attention. This study analyses the case of Pakistan selecting the institutes of Lahore as study sample. It investigates the extent of TQM implementation in teacher training institutes of Pakistan like Institute of Education and Research University of the Punjab, Lahore (IER) and University of Education Lahore (UE). Issues such as TQM implementation and the benefits of such implementation are surveyed, discussed and analyzed through specifically constructed research instrument. A questionnaire was sent to the campuses of both the IER and UE. The data was collected from 40 PhD and M Phil student teachers (20 from each university), selected through random sampling procedure. The study reveals that implementation of total quality is still limited in these universities. The findings of this research may help the management of teacher training institutes to design appropriate strategies to develop the TQM culture, redefine their preferences and reallocate the resources of their institutes.

**Key Terms:** TQM, Culture, Empowerment, Satisfaction

### **INTRODUCTION**

Total quality management by its very nature is dynamic. It is a management philosophy for the pursuit of excellence in the organization. Deming (1951), a pioneer exponent of TQM gives importance to the role of management. According to him the problem of quality primarily lies with the management. Juran (1989) uses the Japanese word Kaizen means step by step improvement. He also emphasizes the major role of management relating to quality. Crosby (1993) gave the concept of “Zero defect” which implies that in a perfect quality product there should not be any defect in production processes. Quality is maintained not only by adopting a program or project but by creating a new quality culture in the organization. Every individual, every group and every enterprise should be active participant of the common objective of the goal of quality. That is the rationale for word *TOTAL* in total quality management.

TQM approach to education is considered successful and widely implemented in higher education in advanced countries. Its implementation in teacher training institutes is necessary

because effective teacher preparation programs produce effective teachers and these institutions have vital role in improving the standards of the system of education by preparing competent and effective teachers. Quality of a nation is judged by the quality of its citizens which is determined by the educational system in the nation which in turn is decided by the quality of teachers it has.

This research is aimed to explore the existing status of quality implementation in teacher training institutes of Pakistan. The Pakistani teacher education sector comprises, for the most part, autonomous, self-accrediting universities established under State. Most of the universities are publicly-funded. This study analyses the case of Pakistan selecting two institutes of Lahore IER and UE as study sample. I.E.R. is a postgraduate College of Education of the University of the Punjab, Lahore. It was established in September 1960 in cooperation with the School of Education, Indiana University, USA. It is the pioneer Institute in Pakistan for advanced studies in the field of Education and enjoys the status of being the premier and most prestigious Institute of Education in the country. IER's average per year enrolment is 400 students. It has total 57 teaching staff and 130 non teaching staff. 18 staff members are doctors and even completed their post doctorate. About 20 staff members are enrolled for PhD. It is the biggest doctoral faculty in Pakistan in any of the campuses of any university.

UE Lahore was established in September, 2002 by the Government of the Punjab, as a centre of excellence in teacher education and research. The main focus is to promote discipline of education as the core knowledge area for continually improving and updating teacher education and teaching learning strategies. UE has 10 campuses. In 2007-08, its total students' registration is 6424 students. 42 students are registered for PhD and 57 for M Phil. It has 320 teaching staff and 394 non teaching staff. Teacher student ratio is 1: 20. The findings of this research may help to examine the extent to which total quality systems are in place to assure a quality production in the teacher training institutes. It also helps the teacher training institutes to design appropriate strategies to develop the TQM culture, redefine their preferences and reallocate the resources of their institutes.

## **LITERATURE REVIEW:**

TQM is an approach that encourages employees at all levels of an organization to make suggestions about how work should be done and to take an active role in improving processes. Its principles are conceptualized and documented by authorities such as W. Edwards Deming (1951), Joseph M. Juran (1989), and Philip Crosby (1993) and they have been widely implemented in corporate America under the name of total quality management (TQM). The literature is abundant with the articles indicating that the quality principles are proven ways of improving the effectiveness and efficiency of organizations. The best way to go about it is to begin with educational institutions. Teaching institutions in general and professional schools in particular can contribute to the quality movement by preaching and practicing quality. A wide variety of surveys are conducted on the implementation of total quality in teacher education. The Carnegie Commission (1986) emphasizes that teachers "must be able to learn all the time. Teachers will not come to school knowing all they have to know, but knowing how to figure out what they need to know, where to get it, and how to help others make meaning out of it." (p.25). Shulman (1987) has identified seven categories of professional knowledge and four sources of such knowledge. The seven categories include knowledge of content, general pedagogy, curriculum, pedagogical content, learners and their characteristics, educational context, and educational ends and purposes. The four sources of that knowledge base are scholarship in disciplines, educational materials and structures, formal educational scholarship, and the wisdom

of practice. Whitty (1992) emphasized that quality teacher education requires a genuine partnership between various stakeholders, a clearer definition of competencies required by teachers as reflective practitioners, monitoring of academic activities through a quality assurance system, administration of professional accreditation through a council for accreditation of teacher education with strong extra professional representation to ensure public accountability, sensitivity to local needs within this national framework. Hillman (1995) concluded that more education faculty teaches about technology than with it. Teacher education programs must pay heed to the fact that teachers need consistent, pragmatic training in the use of various technologies for instructions. Over the past years, the public and politicians have become concerned with the quality of teachers in public schools. As a result of this concern, today's educational institutions are most interested in the level of preparedness of their teacher candidates. Preparing teachers for the rigors of teaching is a challenging task for all institutions (Mason, 1997). Gore (2001) advocates a framework rooted in classroom practices with four components; intellectual quality, relevance, supportive classroom environment, and recognition of differences. In essence Gore suggests that the knowledge base for teacher education should include the same elements that characterize effective teaching. Graham's study (as cited in Ganihar & Bhat, 2006) concluded that TQM principles enhanced teaching and students' success is resulted from positive attitudes, collaboration and quality culture.

## **METHODOLOGY**

The present study is normative survey type research. The evaluation of an institution must, to a large extent be based on the degree to which its educational program meets the needs of students in the area it serves. So, it is important that the students analyze and describe the services they generally receive from the institution. To this end, the participants in this study were pre-service teacher candidates. Target population was Ph.D and M.Phil students of IER and UE. 40 Respondents (20 from each university) were selected from 99 students of UE and 98 students of IER through random sampling procedure. A well structured questionnaire containing five point scale was administered by the researchers themselves. The questionnaire comprises 11 factors and 50 items. These factors are quality culture, the role of administration, teachers' characteristics, methods, physical facilities, customer (parent, pupil) involvement, employee empowerment, quality of academic activities, customer satisfaction, quality curriculum, and evaluation system. The reliability was computed through SPSS software. The cronbach's Alpha was .97. For the analysis of data, descriptive (M,SD) and differential statistics(t-test) were used.

## **Hypotheses:**

Hypotheses are the following:

1. There is difference between IER and UE on the implementation of total quality concept in their institutes.
2. Student teachers of different age groups (up to 35 and above 35) differ with regard to implementation of total quality in their institution as a whole and in the related dimensions: quality culture, the role of administration, teachers' characteristics, methods, physical facilities, customer (parent, pupil) involvement, employee empowerment, quality of academic activities, customer satisfaction, quality curriculum, evaluation system.
3. Men and women student teachers differ with regard to implementation of total quality in their institution in the related dimensions

4. Student teachers with different areas of specialization differ with regard to implementation of total quality in their institution in the related dimensions
5. Student teachers of IER and UE differ with regard to implementation of total quality in their institution in the related dimensions

## Data Analysis

For the analysis of data, descriptive and differential statistics were used. The results of statistical analyses have been summarized, tabulated and interpreted appropriately.

### 1. Descriptive analysis

Table1 gives the descriptive statistics of the total quality as a whole and all 11 factors. The means and standard deviation of the various dimensions of total quality implementation are shown below.

**Table 1: Means scores and Standard deviation of Total Quality Implementation as a whole and its dimensions and mean scores and Standard deviation of both institutes IER & UE**

Dimensions	Mean	SD	IER		UE	
			Mean	SD	Mean	SD
Total quality implementation	1.33	33.92	1.24	38.23	1.42	26.80
Quality culture	15.65	3.00	15.40	3.82	15.90	1.94
The role of administration	12.48	4.69	11.50	5.28	13.45	3.91
Teachers characteristics	9.77	3.72	13.00	4.35	15.95	4.69
Methods	14.48	4.71	9.10	3.72	10.45	3.69
Physical facilities	10.45	3.20	9.75	3.46	11.15	2.82
Customer(parent, pupil) involvement	10.98	4.07	10.40	4.85	11.55	3.14
Employee empowerment	10.83	4.29	9.40	4.07	12.25	4.12
Quality of academic activities	19.75	6.50	18.30	6.68	21.20	6.14
Customer satisfaction	5.25	2.39	4.90	2.47	5.60	2.33
Curriculum	10.32	3.38	9.95	3.76	10.70	2.99
Evaluation system	12.95	3.68	11.90	4.06	14.00	2.99
<b>Grand total</b>	<b>132.91</b>	<b>43.63</b>	<b>123.60</b>	<b>46.22</b>	<b>142.20</b>	<b>38.56</b>

The results in Table1 reveal that Mean score of UE is above the cumulative means of the whole sample in the ten of the eleven components namely quality culture, the role of administration, teachers characteristics, physical facilities, employee empowerment customer(parent, pupil) involvement, quality of academic activities, customer satisfaction, quality curriculum, evaluation system. Although the difference is very slight, the mean (M=1.42) of UE as compared to the mean (M=1.24) of IER is higher which means the extent of implementation of total quality is higher in UE as compared to IER. The mean score of UE on all eleven variables is higher than the mean scores of IER. Both means (M=1.42 & 1.24) are much lower than the average mean (M=3) of the scale. Which means that extent of implementation of total quality in teacher training institutes is very low.

**2. Differential Analysis:**

**Table 2: Group differences for Dimension quality Culture between groups' age (Up to 35 years & above 35 years), gender (Female & Male), Area of specialization (Educational management, curriculum) and Institutions (IER & UE)**

Variables		N	Mean	SD	t	p	Significance
Age	Up to 35 years	20	16.10	3.23	.95	.88	> .05 not significant
	Above 35 years	20	15.20	2.76			
Gender	Female	10	15.10	2.42	-.76	.46	> .05 not significant
	Male	30	15.83	3.19			
Specialization	Educational management	20	16.15	3.56	1.06	.35	> .05 not significant
	Curriculum	20	15.15	2.30			
Institution	IER	20	15.40	3.82	-.52	.01	< .05 significant
	UE	20	15.90	1.94			

p < .05

The results in table 2 reveal that on the dimension total quality culture student teachers with educational management as area of specialization have highest mean scores (M=16.15) and those of female have lowest mean scores (M=15.10). As regard to implementation of total quality culture the mean scores of UE is higher (M=15.90) than IER (M=15.40). The results also show that on total quality culture student teachers of IER and UE differ. Hence the hypothesis that two groups differ is accepted. Other sub groups based on student teachers age, gender and specialization do not differ, hence the hypothesis that the groups differ is not accepted.

**Table 3: Group differences for Dimension the role of administration for quality between groups age (Up to 35 years & above 35 years), gender (Female & Male), Area of specialization (Educational management, curriculum) and Institutions (IER & UE)**

Variables		N	Mean	SD	t	p	Significance
Age	Up to 35 years	20	14.10	4.46	2.31	.84	> .05 not significant
	Above 35 years	20	10.85	4.44			
Gender	Female	10	11.30	4.62	-.92	.37	> .05 not significant
	Male	30	12.87	4.73			
Specialization	Educational management	20	11.55	4.83	-1.26	.89	> .05 not significant
	Curriculum	20	13.40	4.48			
Institution	IER	20	11.50	5.28	-1.33	.25	> .05 not significant
	UE	20	13.45	3.91			

p < .05

The results in table 3 reveal that on the dimension the role of administration student teachers of age up to 35 years have highest mean scores (M=14.10) and those of above 35 have lowest mean scores (M=10.85). As regard to the role of administration in implementation of total quality the mean scores (M=13.45) of UE is higher than the mean score of (M=11.50) IER. Sub groups based on student teachers age, gender, and institution do not differ, hence the hypothesis that the groups differ is not accepted.

**Table 4: Group differences for Dimension Teacher’s Characteristics for quality between groups’ age (Up to 35 years & above 35 years), gender (Female & Male), Area of specialization (Educational management, curriculum) and Institutions (IER & UE)**

Variables		N	Mean	SD	t	p	Significance
Age	Up to 35 years	20	17.20	4.07	4.46	.63	> .05 not significant
	Above 35 years	20	11.75	3.64			
Gender	Female	10	11.70	4.00	-2.43	.03	< .05 significant
	Male	30	15.40	4.61			
Specialization	Educational management	20	14.70	5.27	.30	.28	> .05 not significant
	Curriculum	20	14.25	4.19			
Institution	IER	20	13.00	4.35	-2.06	.69	> .05 not significant
	UE	20	15.95	4.69			

p < .05

The results in table 4 reveal that on the dimension teacher’s characteristics for quality implementation student teachers of age of up to 35 years have highest mean scores (M=17.20) and those of female have lowest mean scores (M=11.70). The mean scores (M=15.95) of UE for teacher’s characteristics for implementation of total quality is higher than the mean scores (M=13.00) of IER. The results also show that the perception of teachers’ characteristics for quality is different according to male and female. Other sub groups based on student teachers age, specialization and institutions do not differ, hence the hypothesis that the groups differ is not accepted.

**Table 5: Group differences for Dimension methods used for quality between groups age (Up to 35 years & above 35 years), gender (Female & Male), Area of specialization (Educational management, curriculum) and Institutions (IER & UE)**

Variables		N	Mean	SD	t	p	Significance
Age	Up to 35 years	20	10.80	4.05	1.79	.16	> .05 not significant
	Above 35 years	20	8.75	3.13			
Gender	Female	10	8.70	2.00	-1.46	.15	> .05 not significant
	Male	30	10.13	4.10			
Specialization	Educational management	20	9.40	3.86	-.63	.84	> .05 not significant
	Curriculum	20	10.15	3.63			
Institution	IER	20	9.10	3.71	-1.15	.98	> .05 not significant
	UE	20	10.45	3.69			

p < .05

The results in table 5 reveal that on the dimension methods used for total quality student teachers of age of up to 35 years have highest mean scores (M=10.80) and those of above 35 years have lowest mean scores (M=8.70). The mean scores (M=10.45) of UE for methods used for implementation of total quality is higher than the mean scores (M=9.10) of IER. Sub groups based on student teachers age, gender, specialization and institutions do not differ, hence the hypothesis that the groups differ is not accepted.

**Table 6: Group differences for Dimension physical facilities for quality Culture between groups age (Up to 35 years & above 35 years), gender (Female & Male), Area of specialization (Educational management, curriculum) and Institutions (IER & UE)**

Variables		N	Mean	SD	t	p	Significance
Age	Up to 35 years	20	10.45	2.91	.00	.35	> .05 not significant
	Above 35 years	20	10.45	3.53			
Gender	Female	10	10.00	3.83	-.45	.66	> .05 not significant
	Male	30	10.60	3.013			
Specialization	Educational management	20	10.40	3.98	-.10	.02	< .05 significant
	Curriculum	20	10.50	2.26			
Institution	IER	20	9.75	3.46	-1.40	.24	> .05 not significant
	UE	20	11.15	2.82			

p < .05

The results in table 6 reveal that of the dimension physical facilities UE has highest mean scores (M=11.15) and of IER has lowest mean scores (M=9.75). The results also show that the mean scores of physical facilities is different according to students having educational management and curriculum as area of specialization. Other sub groups based on student teachers age, gender and institutions do not differ, hence the hypothesis that the groups differ is not accepted.

**Table 7: Group differences for Dimension customer (parent, pupil) involvement for quality between groups' age (Up to 35 years & above 35 years), gender (Female & Male), Area of specialization (Educational management, curriculum) and Institutions (IER & UE)**

Variables		N	Mean	SD	t	p	Significance
Age	Up to 35 years	20	12.10	4.39	1.80	.82	> .05 not significant
	Above 35 years	20	9.85	3.48			
Gender	Female	10	10.20	3.19	-.81	.43	> .05 not significant
	Male	30	11.23	4.35			
Specialization	Educational management	20	10.85	4.76	-.19	.43	> .05 not significant
	Curriculum	20	11.10	3.37			
Institution	IER	20	10.40	4.85	-.89	.19	> .05 not significant
	UE	20	11.55	3.14			

p < .05

The results in table 7 reveal that on the dimension customer (parent, pupil) involvement. Student teachers of age of up to 35 years have highest mean scores (M=12.10) and those of above 35 years have lowest mean scores (M=9.85). For the customer (parent, pupil) involvement in the decision making policy of the institute, mean scores (M=11.55) of UE is higher than the mean scores (M=10.40) of IER. Sub groups based on student teachers age, gender, specialization and institutions do not differ, hence the hypothesis that the groups differ is not accepted.

**Table 8: Group differences for Dimension employee empowerment between groups' age (Up to 35 years & above 35 years), gender (Female & Male), Area of specialization (Educational management, curriculum) and Institutions (IER & UE)**

Variables		N	Mean	SD	t	p	Significance
Age	Up to 35 years	20	13.00	3.51	3.69	.64	> .05 not significant
	Above 35 years	20	8.65	3.94			
Gender	Female	10	9.20	4.16	-1.42	.18	> .05 not significant
	Male	30	11.37	4.26			
Specialization	Educational management	20	10.25	4.53	-.85	.70	> .05 not significant
	Curriculum	20	11.40	4.07			
Institution	IER	20	9.40	4.07	-2.20	.65	> .05 not significant
	UE	20	12.25	4.12			

p < .05

The results in table 8 reveal that on the dimension employee empowerment student teachers of age of up to 35 years have highest mean scores (M=13.0) and those of above 35 years have lowest mean scores (M=8.65). The mean scores (M=12.25) of UE for employee empowerment is higher than the mean scores (M=9.40) of IER. Sub groups based on student teachers' age, gender, specialization and institutions do not differ, hence the hypothesis that the groups differ is not accepted.

**Table 9: Group differences for Dimension quality of academic activities between groups' age (Up to 35 years & above 35 years), gender (Female & Male), Area of specialization (Educational management, curriculum) and Institutions (IER & UE)**

Variables		N	Mean	SD	t	p	Significance
Age	Up to 35 years	20	22.45	6.61	2.86	.18	> .05 not significant
	Above 35 years	20	17.05	5.28			
Gender	Female	10	16.70	4.99	-2.04	.06	< .05 significant
	Male	30	20.77	6.70			
Specialization	Educational management	20	19.45	7.45	-.29	.24	> .05 not significant
	Curriculum	20	20.05	5.58			
Institution	IER	20	18.30	6.68	-.14	.84	> .05 significant
	UE	20	21.20	6.14			

p < .05

The results in table 9 reveal that on the dimension quality of academic activities, student teachers of age up to 35 years have highest mean scores (M=22.45) and those of female have lowest mean scores (M=16.70). The mean scores (M=21.20) of UE for quality of academic activities is higher than the mean scores (M=18.30) of IER. The results also show that the perception of quality of academic activities is different according to male and female. Other sub groups based on student teachers age, specialization and institutions do not differ, hence the hypothesis that the groups differ is not accepted.

**Table 10: Group differences for Dimension customer satisfaction between groups' age (Up to 35 years & above 35 years), gender (Female & Male), Area of specialization (Educational management, curriculum) and Institutions (IER & UE)**

variables		N	Mean	SD	t	p	Significance
Age	Up to 35 years	20	6.20	2.46	2.71	.30	> .05 not significant
	Above 35 years	20	4.30	1.95			
Gender	Female	10	4.40	1.58	-1.66	.11	> .05 not significant
	Male	30	5.53	2.57			
Specialization	Educational management	20	5.10	2.53	-.39	.79	> .05 not significant
	Curriculum	20	5.40	2.30			
Institution	IER	20	4.90	2.47	-.92	.68	> .05 not significant
	UE	20	5.60	2.32			

p < .05

The results in table10 reveal that on the dimension customer satisfaction student teachers of age of up to 35 years have highest mean scores (M=6.20) and those of above 35 years have lowest mean scores (M=4.30). The mean scores (M=5.60) of customer satisfaction for implementation of total quality, UE is higher than the mean scores (M=4.90) of IER. Sub groups based on student teachers age, gender, specialization and institutions do not differ, hence the hypothesis that the groups differ is not accepted.

**Table 11: Group differences for Dimension quality curriculum between groups' age (Up to 35 years & above 35 years), gender (Female & Male), Area of specialization (Educational management, curriculum) and Institutions (IER & UE)**

variables		N	Mean	SD	t	p	Significance
Age	Up to 35 years	20	11.25	3.23	1.78	.94	> .05 not significant
	Above 35 years	20	9.40	3.35			
Gender	Female	10	9.20	3.52	-1.19	.26	> .05 not significant
	Male	30	10.70	3.30			
Specialization	Educational management	20	10.35	4.20	.05	.01	< .05 significant
	Curriculum	20	10.30	2.40			
Institution	IER	20	9.95	3.76	-.70	.47	> .05 not significant
	UE	20	10.75	2.99			

p < .05

The results in table 11 reveal that on the dimension quality curriculum student teachers of age of up to 35 years have highest mean scores (M=11.25) and those of female have lowest mean scores (M=9.20). As regard to the quality curriculum for implementation of total quality the mean scores (M=10.75) of UE is higher than the mean scores (M=9.95) of IER. The results also show that the extent of using quality curriculum is different according to the students having the area of educational management and curriculum. Other sub groups based on student teachers age, gender and institutions do not differ, hence the hypothesis that the groups differ is not accepted.

**Table 12: Group differences for Dimension evaluation system between groups' age (Up to 35 years & above 35 years), gender (Female & Male), Area of specialization (Educational management, curriculum) and Institutions (IER & UE)**

Variables		N	Mean	SD	t	p	Significance
Age	Up to 35 years	20	14.75	2.92	3.52	.43	> .05 not significant
	Above 35 years	20	11.15	3.53			
Gender	Female	10	11.50	3.14	-1.60	.13	> .05 not significant
	Male	30	13.43	3.77			
Specialization	Educational management	20	12.80	4.30	-.26	.08	> .05 not significant
	curriculum	20	13.10	3.04			
Institution	IER	20	11.90	4.30	-1.86	.23	> .05 not significant
	UE	20	14.00	3.04			

p < .05

The results in table 12 reveal that on the dimension evaluation system student teachers of age of up to 35 years have highest mean scores (M=14.75) and those of above 35 years have lowest mean scores (M=11.15).As regard to the evaluation system for implementation of total quality the mean scores (M=14.00) of UE is higher than the mean scores (M=11.90) of IER. Sub groups based on student teachers age, gender, specialization and institutions do not differ, hence the hypothesis that the groups differ is not accepted.

**Table 13: Group differences for implementation of total quality as a whole between groups' age (Up to 35 years & above 35 years), gender (Female & Male), Area of specialization (Educational management, curriculum) and Institutions (IER & UE)**

Variables		N	Mean	SD	t	p	Significance
Age	Up to 35 years	20	1.48	31.95	3.22	.80	> .05 not significant
	Above 35 years	20	1.17	28.89			
Gender	Female	10	1.18	27.66	-1.64	.66	> .05 not significant
	Male	30	1.38	34.75			
Specialization	Educational management	20	1.31	39.87	.26	1.33	> .05 not significant
	Curriculum	20	1.35	27.64			
Institution	IER	20	1.24	38.23	-.178	.347	> .05 not significant
	UE	20	1.42	26.80			

p < .05

The results in table 13 reveal that for the implementation of total quality as a whole student teachers of age of up to 35 years have highest mean scores (M=14.75) and those of above 35 years have lowest mean scores (M=11.15). As regard to the implementation of total quality as a whole the mean scores (M=1.42) of UE is higher than the mean scores (M=1.24) of IER. Sub groups based on student teachers age, gender, specialization and institutions do not differ, hence the hypothesis that the groups differ is not accepted.

### **Major Findings:**

1. In comparison of two teacher training colleges mean scores of University of education is above the grand means of the whole sample in the ten of the eleven components namely quality culture, the role of administration, teachers characteristics, physical facilities, customer (parent, pupil) involvement, employee empowerment, quality of academic activities, customer satisfaction, quality curriculum, evaluation system.
2. The mean scores of UE on all eleven variables are higher than the mean scores of IER. Both means (1.42, 1.24) are much lower than the average mean 3 of the scale. Which means that extent of implementation of total quality in teacher training institutes is very low.
3. Significant differences exist in the existence of total quality culture between University of education (M=15.90) and Institute of education and Research (M=15.40)
4. Significant differences exist about teachers' characteristics for implementation of total quality between female student teachers (M=15.70) and male student teachers (M=11.70)
5. Significant differences exist about physical facilities for implementation of total quality between student teachers who have specialization in educational management (M=9.40) and those who are specialized in curriculum (M=10.15)
6. Significant differences exist about quality of academic activities for implementation of total quality between male student teachers (M=20.77) and female student teachers (M=16.70)
7. Significant differences exist about quality curriculum for implementation of total quality between student teachers who have specialization in educational management (M=10.35) and those who are specialized in curriculum (M=10.30)

### **RECOMMENDATIONS:**

In the light of findings of the study, the following recommendations are made:

1. Administrators should stop focusing upon the judgment of results instead administrators should start focusing upon the improvement of process-learning teaching, and doing whatever tasks which needs be done
2. Staff training and development serves as a genuine tool to successful implementation of total quality management; funds should be made available and staff should be encouraged to go for conferences, seminars, workshops and short courses.
3. The statistical methods should be used to control the various processes of the institution. Every process should be carried through PDCA (plan, do, check, Act) method.
4. There should be a quality council which continuously makes efforts for devising new methods for improving the quality of teaching

5. The government should encourage teacher training practitioners and consultants who have developed a wealth of experience in the area of TQM and its implementation to share their experiences by writing books or articles that can be read and learned from.
6. The ministry of Education as the governing body on Education should set up an enlightenment campaign on the need for all institutions to embrace and enforce TQM principles in their organizations or schools.
7. The practice sessions provided to student teachers are not lengthy enough that they can prepare them for the wide range of roles demanded by the market. So 50 % of the course tenure should be given to practice.
8. 80% students complain about the lack of physical facilities. Institutions have to give great emphasis on improving their physical infrastructure.
9. To take best from the employees, more empowerment is needed.
10. The extent of customer satisfaction is poorest of all the factors. Institutions should introduce such training courses which have good market demand.
11. To create awareness, the federal government should introduce TQM as a core course in all teacher training institutes. This will enable every student teacher to have a good grasp of TQM.

## **DISCUSSION**

The quality principles are essentially compatible with the values of teacher education, but often the big problem is change in culture that can support the principles. Institutions have missions, but most are not accustomed to measuring the outcomes of their processes. The leaders are not trained in the tools and techniques used to improve systems and processes. There is lack of professional development who can collectively improve institutional processes. For the culture to change, members need to shift their thinking about how work is done. The people should be trained to embrace change as a positive value in the culture since continuous improvement is based on continuous change. The leaders are essential in creating a quality culture and they can play a significant role in assuring that the necessary resources are available to support quality initiatives. Further research can be conducted on awareness of quality culture among teacher educators, creation of quality culture in teacher training institutes. This study may also be expanded to compare more teacher training colleges in Pakistan.

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