

Total Quality Management: Implementation in Teacher Training Institutions

Sadaf Jabeen^{*}, Mahr Muhammad Saeed Akhtar^{**} & Muhammad Rauf^{*}

Abstract

The study investigated the extent of total quality implementation in teacher training institutes in Pakistan. These institutes include Institute of Education and Research (IER), University of the Punjab Lahore; University of Education (UE), Lahore; Institute of Education and Research (IER), University of Peshawar; Department of Education, International Islamic University Islamabad and Department of Education, University of Karachi as study sample. Issues such as Teacher Quality Management (TQM) implementation and its benefits were surveyed, discussed and analyzed through specifically constructed research instrument. A questionnaire was sent to the campuses of all five universities. The data were collected from 150 PhD and M Phil students teachers (30 from each university), selected through Purposive Sampling Technique. The study revealed that implementation of total quality is still limited in these universities. The findings of this research will help the management of teacher training institutes to design appropriate strategies to develop TQM culture, redefine their preferences and reallocate the resources of their institutes.

Keywords: TQM, Culture, Empowerment, Satisfaction.

Introduction

Quality is one of the most important issues in education. It is recognized that there are problems with Pakistani education system. Unmotivated and unprepared faculty, lack of attention paid to performance standards and measurements, imbalance of teacher-pupil ratio, ranging from 1:5 to 1:85, lack of supportive educational environment, poorly written textbooks, impoverished physical facilities, and defective evaluation mechanism have eroded the quality of education and continue to hinder the progress of higher education towards achieving international standards (Malik, 2002; Ali & Zairi, 2005). The university students are product of an education system that does not focus on quality and is a cause of increase in social welfare cost. As a result, they are unprepared to meet the demands of society and market. According to the Higher Education Commission Pakistan (2005), in the global context, the existing status of quality of knowledge being imparted in higher learning institutions of Pakistan is quite questionable.

^{*} Institute of Education and Research, University of the Punjab, Lahore, Pakistan.

^{**} Institute of Education and Research, University of the Punjab, Lahore, Pakistan.

^{*} Institute of Education and Research, University of Peshawar, Peshawar, Pakistan.

The main agents of educational process are teachers, as according to National Commission on Education (1959), “No system of education is better than the teachers who serve it” (p. 40). But presently, it is a sad fact that people joining teaching profession are those who do not qualify for other professions. Moreover, poor economic status of the country also affected the social status and prestige of the teaching profession which consequently deprived the education system of the good quality teachers. To serve this purpose well any effort for quality of education must first be directed to teacher education, without which quality teachers cannot be produced as they are the main agents in improving the quality and efficiency of education system (Govt. of Pakistan, 1998, pp. 47-56).

Teacher training institution is the place where skilled and developed individuals train and produce better, responsible and productive teachers. But quality in teacher training institutions is open to question (Govt. of Pakistan, 1998, p.83). A major challenge to teacher education today is to prepare quality teachers to compete successfully in the world marketplace. To meet this challenge, they must receive quality education. These goals can be achieved by using a customer focused approach in teacher education (Akhtar, 1998). Therefore, quest for total quality management in teacher training institutions has become a watchword all over the world. Although this aspect too has recently received an urgent attention in Pakistan yet a handful of research studies can be found on this vital issue.

Akhtar (2007) has analyzed the implementation of total quality management in colleges of education of Punjab province, Pakistan. Presenting a broader picture, this study aims to compare the implementation of total quality concept in teacher education institutes of three provinces and capital of Pakistan. Thus this study would be a useful contribution in the existing body of research in the relevant area.

The core aim of this research was 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 analyzes the case of Pakistan, selecting five institutes of Pakistan i.e. Institute of Education and Research (IER), University of the Punjab Lahore; University of Education (UE), Lahore; Institute of Education and Research (IER), University of Peshawar; Department of Education, International Islamic University Islamabad and Department of Education, University of Karachi as study sample.

Review of the Related Literature

Total Quality Management (TQM) is a philosophy for the pursuit of excellence in the organizations. 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 by authorities such as W. Edwards Deming (1951), Joseph M. Juran (1989), and Philip Crosby (1993) and they

have been widely implemented in American organizations under the name of total quality management.

Deming (1991) a pioneer exponent of TQM gave importance to the role of management. According to him the problem of quality primarily lies with the management. Juran (1989) used the Japanese word Kaizen meaning step by step improvement and emphasized 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 quality. That is the rationale for the word TOTAL in Total Quality Management (Akhtar, 2000).

Salami and Akpobire (2013) suggested that TQM requires universal endorsement on the part of top management which can establish a system of core values based on the building blocks of the TQM including leadership and quality culture, continuous improvement and innovation in educational processes, management of information and team work, both internally and externally. Defining TQM, Akhtar (2000) argued that it is a management philosophy as well as a set of guiding principles that is focused on continuous improvement in processes of the institution and committed to total customer satisfaction. It integrates fundamental techniques, existing technical tools, which are being operated under a disciplined approach of management which is based on the participation of all its members (Farooq, Akhtar, Shah & Memoon, 2007).

The literature has clearly established that the effectiveness and efficiency of educational institutions can be improved through quality principles mostly in the field of business and industry (Lunenburg, 2010; Deming, 1993). TQM approach to education is considered successful and widely implemented in higher education in developed countries. It can be evolved in education by shifting focus from experience to technique and finally to the process (Fincher, 1994).

Crosby (1993) suggested a practical model for using TQM principles in education. He argued that management should shift its focus from the students' examination results to the quality of the teaching system used. Continuous improvement efforts need to be directed to curriculum and delivery services and examination results should be used as a diagnostic tool for assuring the quality of the teaching system. Keller (2006) argued that the goal of maintaining quality requires university administrators to focus on the quality of teaching, administrative functions, as well as physical facilities and services for students. To serve all these purposes university leaders have to dedicate more commitment and time for finding additional resources, managing costs, increasing productivity and promoting accountability.

Whitty (1992) emphasized that quality teacher education requires a genuine partnership among 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 within the national framework. Hillman (1995) concluded that teacher education programs must pay heed to the fact that teachers need consistent and pragmatic training in the use of various technologies for instructions. To serve this purpose, today's teacher training institutions should be most interested in the level of preparedness of their teacher candidates.

Akhtar (2007) had conducted a study assessing application and analysis of total quality management in colleges of education in Punjab. He concluded that limited number of highly qualified teachers, unmotivated teachers, non-existence of training for administrators specially to stimulate quality, lack of well-equipped physical facilities like laboratories and libraries to quench the students' academic thirst, traditional method of assessment and evaluation with several loopholes are the main causes of hindrance in quality in teacher education colleges of Punjab.

The present investigation will serve as the extension of this research by including five teacher training institutions from Pakistan. The findings of this research will help to examine the extent to which total quality systems were in place to assure a quality production in the teacher training institutes of Pakistan. It will also help the teacher training institutes to design appropriate strategies to develop the TQM culture, redefine their preferences and reallocate the resources of their institutes.

Methodology

The study was normative survey type research. The evaluation of an institution must, to a large extent, be based on the degree to which its educational programs meet the needs of students in the area it serves. So, it was 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 and in-service teacher candidates. Target population was PhD and M.Phil scholars of all five universities. 150 Respondents (30 from each university) were selected through purposive sampling procedure. Two criteria were considered for sample selection. Firstly, the sample was chosen from PhD and M.Phil scholars because these students have better understanding and more sensitive look at processes and functioning of the institute. Secondly, the sample was consisted of those scholars who have studied the area of Total Quality Management or Total Quality Education. Initially, 70 items were developed for Implementation of Total Quality Concept Questionnaire (ITQCCQ). Factor analysis was performed and 19 items were discarded due to low item reliability. Finally, the questionnaire comprised 50 items containing five points Likert-scale and 11 factors, having reliability more than 0.50 was administered by the researchers. One item was open ended related to reasons and suggestions. Those factors were quality culture ($r=0.58$), the role of administration ($r=0.73$), teachers' characteristics ($r=0.61$), methods ($r=0.79$), physical facilities ($r=0.70$), customer involvement ($r=0.77$), employee empowerment ($r=0.75$), quality of academic activities ($r=0.81$), customer's

satisfaction ($r=0.73$), quality curriculum ($r=0.54$), and evaluation system ($r=0.64$). The Cronbach Alpha for the total ITQCQ was 0.84.

Research Questions

1. Is there any significant mean difference among five universities of Pakistan on the implementation of total quality concept in their teacher training institutions?
2. Is there any significant mean difference among five universities of Pakistan on the implementation of total quality components like quality culture, role of administration, teachers' characteristics, methods of quality application, physical facilities, customer involvement, employee empowerment, quality of academic activities, customer's satisfaction, quality curriculum and evaluation system in their teacher training institutes?

Results

Table 1 reflects the descriptive statistics of the implementation of total quality as a whole. The means and standard deviation of all five universities regarding total quality implementation are shown below.

Table 1: Mean Scores and Standard Deviation of Implementation of Total Quality in Teacher Training Institutes of Public Universities

University Name	N	Mean	SD
IER, University of the Punjab Lahore	30	1.28	35.02
University of Education Lahore	30	1.37	27.44
IER, University of Peshawar	30	1.31	36.67
Education Department University of Karachi	30	1.40	28.58
Education Department International Islamic University Islamabad	30	1.38	36.69
Total	150	1.35	33.03

The results in Table 1 revealed that mean score of University of Karachi, International Islamic University Islamabad and University of Education Lahore is above the cumulative mean of the whole sample on the level of total quality implementation. Although the difference is very slight, the mean ($M=1.40$) of University of Karachi is highest among all five universities of Pakistan. International Islamic University Islamabad is on second number with ($M=1.38$) followed by University of Education Lahore ($M=1.37$), University of Peshawar ($M=1.31$) and University of the Punjab Lahore ($M=1.28$) respectively showing that the extent of implementation of total quality is highest in University of Karachi and lowest in University of the Punjab Lahore as compared to other universities of Pakistan. The table also establishes the fact that mean scores of all five universities of Pakistan are much lower than the average mean ($M=3$) of

the scale which means that overall extent of implementation of total quality in teacher training institutes of Pakistan is very low.

Table 2: One Way Analysis of Variance on Total Quality Implementation Scale Among Teacher Training Universities of Pakistan

Source of Variation	Sum of Squares	df	Mean Square	F	p
Among Groups	3441.973	4	860.493	0.784	0.537
Within Groups	159110.800	145	1097.316		

Table 2 exposes the comparison among five universities at the level of implementation of total quality in their teacher training institutes. The p-value 0.537 is not significant at 0.05 level of alpha. It shows that there is no significant mean difference among all five universities of Pakistan at the level of implementation of total quality in their teacher training institutes. It confirms the findings in table 1 showing minute mean difference among five universities on the extent of total quality implementation.

Table 3: Mean and Standard Deviation of 11 Components of Total Quality in Teacher Training Universities of Pakistan

Total Quality Dimensions	Mean	SD
Total quality culture	15.26	4.006
The role of administration	13.56	4.585
Teacher's characteristics	13.57	4.829
Methods	10.06	4.105
Physical facilities	10.05	4.334
Customer (parent, pupil) involvement	11.52	4.733
Employee empowerment	11.71	3.792
Quality of academic activities	20.59	6.009
Customer satisfaction	4.91	2.377
Curriculum	10.20	3.543
Evaluation system	13.38	4.275

Table 3 shows the overall average level and Standard deviation of 11 major factors of total quality in teacher training institutes of Pakistan. It is clearly evident that on the average customer satisfaction level is very low with $M=4.91$, $SD=2.377$. According to respondents the quality of academic activities is better of all other components of total quality with $M=20.59$, $SD=6.009$ followed by total quality culture $M=15.26$, $SD=4.006$. The level of total quality is low in all other 9 out of 11 components.

The following tables show the difference among five universities of Pakistan on 11 major components of total quality in their teacher training institutes.

Table 4: Mean Difference Among Teacher Training Institutes of Pakistan Regarding Quality Culture, Role of Administration, Customer Involvement, Employee Empowerment, Quality of Academic Activities, Quality Curriculum, Evaluation System

	Source of variation	Sum of Squares	df	Mean Square	F	p
Quality Culture	Between Groups	162.093	4	40.523	2.636	0.036
	Within Groups	2228.767	145	15.371		
Role of Administration	Between Groups	93.227	4	23.307	1.112	0.035
	Within Groups	3039.733	145	20.964		
Customer Involvement	Between Groups	227.707	4	56.927	2.654	0.035
	Within Groups	3109.733	145	21.446		
Employee Empowerment	Between Groups	137.707	4	34.427	2.490	0.046
	Within Groups	2004.967	145	13.827		
Quality of Academic Activities	Between Groups	162.693	4	40.673	1.130	0.034
	Within Groups	5217.500	145	35.983		
Quality Curriculum	Between Groups	99.133	4	24.783	2.029	0.053
	Within Groups	1770.867	145	12.213		
Evaluation System	Between Groups	176.107	4	44.027	2.506	0.045
	Within Groups	2547.233	145	17.567		

*The mean difference is significant at the 0.05 level.

**The mean difference is significant at the 0.01 level.

Table 4 shows difference among universities regarding quality culture, role of administration, customer involvement (parent and pupil), employee empowerment, quality of academic activities, quality curriculum, and procedure of evaluation system in their teacher training institutes. F-values (2.636, 1.112, 2.654, 2.490, 1.130, 2.029 and 2.506 respectively) are significant at 0.05 level of alpha which rendered the conclusion that there exists significant mean differences among five universities on seven out of eleven components of total quality i.e. quality culture, role of administration, customer involvement, employee empowerment, quality of academic activities, quality curriculum, and procedure of evaluation scales. Further Post Hoc tests were used to show which group differ.

Table 5: Post Hoc Least Significant Difference (LSD) Test

Quality Component	Teacher Training Institute	Teacher Training Institute	Mean Difference	P
Quality Culture	University of Education Lahore	University of Karachi	2.833**	0.006
	International Islamic University Islamabad	University of Karachi	2.767**	0.007
Role of Administration	International Islamic University Islamabad	University of the Punjab Lahore	2.400*	0.044
Customer Involvement	University of Karachi	University of the Punjab Lahore	3.267**	0.007
		University of Education Lahore	3.267**	0.007
Employee Empowerment	University of Education Lahore	University of the Punjab Lahore	2.700**	0.006
	International Islamic University Islamabad	University of the Punjab Lahore	2.533**	0.009
Quality of Academic Activities	University of Education Lahore	University of the Punjab Lahore	3.267*	0.037
Quality Curriculum	University of Karachi	University of education Lahore	1.833*	0.044
		University of Peshawar	2.400**	0.009
Evaluation System	University of Education Lahore	University of the Punjab Lahore	2.400*	0.028
	University of Karachi	University of the Punjab Lahore	2.900**	0.008
		University of Peshawar	2.233*	0.041

*The mean difference is significant at the 0.05 level.

**The mean difference is significant at the 0.01 level

Table 5 depicts significant mean difference between University of Education Lahore and University of Karachi as $M=2.833$ is significant at $p < 0.05$. There also exists significant mean difference ($M=2.767$, $p < 0.05$) between International Islamic University Islamabad and University of Karachi. The positive mean values show that University of Education Lahore and International Islamic University Islamabad are better in adopting quality culture.

Table 5 also depicts significant mean difference between International Islamic University Islamabad and University of the Punjab Lahore as $M=2.400$ is significant at $p < 0.05$. The positive mean value shows that the role of administration in International

Islamic University Islamabad is better than University of the Punjab Lahore in implementing quality.

There is significant mean difference among University of Karachi and University of the Punjab Lahore ($M=3.267$, $p<0.01$) and University of Education Lahore ($M=3.267$, $p<0.01$). The mean difference is similar among three Universities. However, the positive sign of mean value shows that university of Karachi is better than University of the Punjab and University of Education Lahore in customer involvement in the administration of its teacher training institute.

The mean difference between University of Education Lahore and University of the Punjab Lahore ($M=2.700$, $p<0.01$) and between International Islamic university Islamabad and University of the Punjab Lahore ($M=2.533$, $p<0.01$) shows that University of Education Lahore and International Islamic university Islamabad are better than University of Punjab Lahore in employee empowerment in the administration of its teacher training institute.

Table 5 also demonstrates significant mean difference between University of education Lahore and University of the Punjab Lahore ($M=3.267$, $p<0.05$) which shows that University of Education Lahore is better than University of the Punjab Lahore in the quality of its academic activities of its teacher training institutes.

The mean difference between University of Karachi and University of Education Lahore ($M=1.833$, $p<0.05$) and between University of Karachi and University of Peshawar ($M=2.400$, $p<0.01$) shown in table 5 exposed the fact that university of Karachi is better than University of Education Lahore and University of Peshawar in using quality curriculum in their teacher training institutes.

There is significant mean difference among University of Education Lahore and University of the Punjab Lahore at $M=2.400$, $p<0.05$; University of Karachi and University of the Punjab Lahore with mean difference $M=2.900$, $p<0.01$ and University of Karachi and University of Peshawar with mean difference $M=2.233$, $p<0.05$. It rendered to the conclusion that University of Education Lahore is better than University of the Punjab Lahore in employing quality evaluation system and University of Karachi is better than University of the Punjab Lahore and University of Peshawar in using quality evaluation system for assessing teachers in their teacher training institutions.

Table 6: Mean Difference Among Teacher Training Universities of Pakistan Regarding Physical Facilities, Teachers Characteristics, Methods, Customer Satisfaction

Quality Component	Source of variation	Sum of Squares	df	Mean Square	F	P
Physical Facilities	Between Groups	83.373	4	20.843	1.113	0.353
	Within Groups	2715.300	145	18.726		
Teachers Characteristics	Between Groups	71.533	4	17.883	0.762	0.552
	Within Groups	3403.300	145	23.471		
Methods	Between Groups	60.360	4	15.090	0.893	0.470
	Within Groups	2450.100	145	16.897		
Customer Satisfaction	Between Groups	14.840	4	3.710	0.650	0.627
	Within Groups	827.033	145	5.704		

*The mean difference is significant at the 0.05 level.

**The mean difference is significant at the 0.01 level

Table 6 reflects prevailing situation of physical facilities, teachers' characteristics, Methods for the implementation of total quality and customer satisfaction in universities for the implementation of total quality concept in their teacher training institutes. It is obvious that there is no significant mean difference among five universities as F-values (1.113, 0.762, 0.893 and 0.627 respectively) on physical facilities, teachers' characteristics, Methods and customer satisfaction scales are insignificant at 0.05 level of alpha.

Table 7: Number and Percentages of Suggestions Regarding Improvement of Quality in Teacher Education in Pakistan

Sr. No.	Suggestions	No. of Responses	Percentage
1	The objective of quality should be translated into total quality education in its true sense with paradigm shift from old norms of management ensuring continuous improvement in every process using statistical techniques.	64	42%
2	Creation of such quality culture through continuous training and professional development that every person in the institute adopt it as a part of religion.	45	30%
3	Priority should be given to education in budget allocation so that physical facilities can be improved for smooth implementation of total quality	31	21%

Conclusions

In comparison among five teacher training institutes of Pakistan, the mean score of University of Karachi on total quality implementation scale was highest than the mean scores of all other universities. It showed that University of Karachi was better among other Universities in applying total quality principles in its teacher training institute. Mean scores of University of Karachi, International Islamic University Islamabad and University of Education were also above the grand mean ($M= 1.35$) of the whole sample on total quality implementation scale. Mean scores of all five universities i.e. University of the Punjab Lahore, University of Education Lahore, University of Peshawar, University of Karachi and International Islamic University Islamabad (1.28, 1.37, 1.31, 1.40, 1.38) respectively were much lower than the average mean 3 of the scale, which meant that extent of total quality implementation in teacher training institutes of Pakistan was still very low. There was no significant difference among all five universities of Pakistan on the level of implementation of total quality in their teacher training institutes as all of them had low level of quality implementation.

There was significant mean difference in the existence of total quality culture among universities. The positive mean values showed that University of Education Lahore ($M=2.833$) and International Islamic University Islamabad ($M=2.767$) were better than University of Karachi in adopting total quality culture. There existed significant mean difference among two universities in the role of administration in the implementation of total quality concept. The role of administration in International Islamic University Islamabad ($M=2.400$) was better than University of the Punjab Lahore in implementing total quality principles. Significant mean differences were found among universities regarding customer involvement to promote quality in their teacher training institutes. University of Karachi was better than University of the Punjab, Lahore ($M=3.267$) and University of Education Lahore ($M=3.267$) in involving customers in the implementation of total quality.

Universities were also different in empowering their employees in the application of total quality principles. According to the respondents, University of Education Lahore ($M=2.700$) and International Islamic University Islamabad ($M=2.533$) were better than University of the Punjab Lahore in empowering their employees for quality movement. There was also found significant mean difference between University of Education Lahore ($M=3.267$) and University of the Punjab Lahore in the quality of their academic activities. University of Education Lahore was better than University of the Punjab Lahore in the quality of its academic activities.

Significant mean variation was also found among universities regarding quality curriculum taught in their teacher training institutes. University of Karachi was better than University of the Punjab Lahore ($M=1.833$) and University of Peshawar ($M=2.400$) in implementing quality curriculum in their teacher training institutes. In comparison among Universities of Pakistan significant differences regarding their evaluation system were found. University of Education Lahore was better than ($M=2.400$) University of the

Punjab Lahore and University of Karachi was better than (M=2.900, 2.232 respectively) University of the Punjab Lahore and University of Peshawar. It was found that there was no significant variation among five universities on physical facilities, teachers' characteristics, methods of quality implementation and customer satisfaction level.

Discussion

Total quality principles are compatible with the values of teacher education (Salami and Akpobire, 2013). According to the Education Commission of India, "Fate of the nation is decided in the classroom." Teacher has a key role in creating such classrooms. Quality of the teaching to a great extent depends on the quality of education that the teacher receives. So, to ensure academic excellence of their trainees, teacher education institutions should maintain total quality. As Siddiqui (1991) has mentioned that teacher education programs should be compatible with changing needs. In each educational policy of Pakistan quality of teacher education is stressed but what is understood by quality in teacher education? This question is the main issue that is discussed even today. The reason is that planners are still using the traditional notion of quality in education. They consider quality as the result of the introduction of broad content in curriculum and best teaching methods. They think that with a simple modification in the curricula or pedagogical practices, quality can be achieved. This orientation is linked to product driven approach focusing on the outcomes only at a cognitive level, ignoring process driven approach improving continually the whole process of teacher education. Therefore, when initiating any educational reform process, it should be clarified what is meant and understood by quality of teacher education and must consider the totality of each and every process to achieve total quality.

The study demonstrated that the overall extent of total quality in teacher education universities of Pakistan is very low. These results are in line with previous studies conducted by Moosa (2006) and Akhtar (2007). One reason behind is the objectives are not translated into total quality concept as 42% respondents were of the opinion that objectives are weak (Table 7). Akhtar (2007) also had the same views that quality of objectives is not satisfactory and they need to be made more practical. Findings showed that institutions have missions, but administrators are not trained to measure the outcomes of their processes according to the mission. To achieve total quality in its true sense, top management should stop focusing upon the measurement of results instead they should start focusing upon the improvement of the whole process of teaching-learning, involving each and every person and element as argued by Akhtar (2000). The statistical methods should be used to control the various processes of the institution. Akhtar (2000) and Tyagi and Kaur (2013) also suggested that every process should be carried through PDCA (Plan, Do, Check, Act) method. But university administrators are not trained in the tools and techniques used to improve systems and processes. There is lack of professional development which can collectively improve institutional processes. Secondly, the study showed that unawareness and less dedication of top level management towards the principles of TQM is the cause of absence of total quality in

teacher education (Table 7). The same assertion had been made by Tyagi and Kaur (2013), Coat (2006) and (Flores-Molina, 2011). The universal endorsement, particularly at the top is most critical to the success or failure of a TQM implementation effort. If management is not completely committed to TQM, it is unlikely that the effort will be successful (Salami and Akpobire, 2013). Therefore, the reason is that it demands a paradigm shift in administration of teacher education institutes. Where more dedicated and committed administrators are needed who first create such a quality culture where quality is adopted as a religion as Japanese have done. Everyone must be involved in the institute i.e. teachers, staff, and other personnel to develop new attitudes towards teamwork, leadership, cooperation, accountability and recognition. Therefore, quality in teacher education can be achieved by improving existing set up, internal systems and procedure and teaching learning environment (Tyagi & Kaur, 2013).

Thirdly, the study showed that the quality of infrastructure in teacher training institutes was not satisfactory as majority of the students complained about the lack of physical facilities (Table 7). The results are in line with previous studies conducted by Flores-Molina (2011) and Akhtar (2007). Physical facilities like offices, laboratories, libraries, computing labs, common rooms, playgrounds, cafeteria, mosques, dispensaries, and vehicle parking sheds were available but not sufficient. Students must be entitled to have necessary physical facilities which can enrich an educational set up. So institutions have to give great emphasize the improvement of their physical infrastructure. The provision of educational facilities to the students, therefore, is the responsibility of the administration as well as teachers, government officials, parents, political members and business leaders so that future academic, business, and global challenges can be addressed (Arcaro, 1997).

Fourthly, the literature clearly showed that customer satisfaction level in teacher training institutes is low (Akhtar, 2007). The study also found that extent of customer satisfaction was poorest of all the factors. Teacher training Institutions should introduce such training courses which have good market demand.

Fifthly, the study showed that although overall extent of total quality in teacher training institutes of Pakistan was low yet there was no difference among universities in its extent. All had same low level of implementation of total quality concept. The difference was found among universities on quality culture, the role of administration, customer involvement, employee empowerment, quality of academic activities, quality curriculum and evaluation system. Still there is need to improve the quality on all factors because although teacher training institutions are different but still the difference is found on low level of means.

No significant mean variation was found in the components of physical facilities, teachers' characteristics, methods of quality implementation and customer satisfaction level. All of them had same low levels of these factors of quality. All teacher training institutions badly need to improve themselves on these components of quality.

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