


Assessing Student Satisfaction with Educational Services at Lorestan University of Medical Sciences in Iran through the SERVQUAL Model

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ABSTRACT

This cross-sectional study aimed to assess student satisfaction with the educational services provided by the Lorestan University of Medical Sciences in Iran. The study encompassed 642 students during the 2018-2019 academic year. A standard SERVQUAL questionnaire, translated into Persian, was employed to evaluate the quality of educational services based on students' perceptions and expectations. The data collected were analyzed using SPSS software. The mean overall scores for students' perceptions and expectations were 84.59 ± 21.76 and 118.02 ± 17.36 , respectively, indicating a negative quality gap (-33.43) across all dimensions except for responsiveness. No significant differences in expectations were observed based on sex or faculty. However, a significant gender difference was noted in the empathy dimension of perceptions, and a significant faculty difference was found in the tangibility dimension. The findings suggest that enhancing assurance, reliability, empathy, and tangibility could improve educational services and student satisfaction at Lorestan University of Medical Sciences in Iran.

Keywords: Service quality understanding; Current situation; Desired situation

Introduction

Service quality has emerged as a crucial factor in the growth and sustainability of organizations. It is defined as the extent of the gap between customers' expectations and perceptions. Service quality and customer satisfaction are greater when perceptions exceed expectations. In contemporary times, public organizations must consider their customers' opinions on the services provided and the extent to which their expectations are met. Higher education institutions, which cultivate a diverse workforce equipped with essential technical, managerial, professional, and other skills, are among these organizations [1-4]. These institutions not only play a vital

role in the educational, cultural, social, and economic development of society, but other organizational sectors also benefit from their services. Failure to enhance service quality in these institutions can lead to undesirable outcomes, such as academic failure, brain drain, lack of entrepreneurship, and insufficient knowledge production. According to UNESCO, quality in higher education is a multidimensional concept that largely depends on the environment (context), the academic system, and students [5,6].

Students are the most important stakeholders for the survival and development of universities. Their perceptions of educational

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services provided in universities are considered a key factor for the quality assessment of these educational institutions. It is essential to enhance the quality of educational services in these institutions. Various models have been proposed for the evaluation of service quality, including the LibQual, Kano, CIPP, and SERVQUAL models. The SERVQUAL model used in this study was developed by Parasuraman et al. This model measures customers' perceptions of the five dimensions of service quality, including tangibility (facilities and equipment), reliability (ability to perform service reliably), assurance (competence and ability of the staff to instill trust and confidence in the customer), empathy (treating individuals based on their unique characteristics to ensure they feel valued by the organization), and responsiveness (the organization's willingness to assist the customer) [5]. Numerous studies have been conducted across various countries to evaluate the quality of higher education services [7,8]. In Iran, several investigations have employed the SERVQUAL model to assess the quality of educational services offered by different universities of medical sciences, including those in Shiraz [9], Arak [10], Iran [11,4], Qazvin [12], Mashhad [13], Zanjan [14], Alborz [15], and Esfahan [16]. A meta-analysis examining the quality of educational services from the students' perspectives, based on the SERVQUAL model, revealed a significant discrepancy between students' expectations and perceptions, necessitating efforts by officials to enhance quality across all dimensions and to take effective measures to improve educational service quality [17]. Another meta-analysis indicated that students are dissatisfied with the current quality of educational services provided by Iranian universities, suggesting a considerable gap from the ideal state and the achievement of student satisfaction [18].

Established in 1989, Lorestan University of Medical Sciences (LUMS) is a higher education institution situated in Khorramabad, Lorestan province, Iran. It offers courses and programs leading to officially recognized higher education degrees in various fields of study. Given the importance of students'

expectations and perceptions, and considering that no prior study has evaluated the quality gap of educational services at LUMS, this study aims to assess student satisfaction with the educational services provided by LUMS using the SERVQUAL model.

Materials and Methods

Study design and participants

his research adopts a cross-sectional study design. The study population comprised all LUMS students in the second semester of the 2018-2019 academic year. Utilizing the Cochran formula and considering a Cronbach's alpha of 80% for medical students' perceptions of educational service quality [5, 11] with a 3% error margin at a 95% confidence interval, the sample size was determined to be 682.

Students were selected using a stratified quota sampling technique based on faculty, discipline, grade, and semester. From each faculty, students who had completed at least one semester were willing to participate were randomly selected. Students who were unwilling to continue participating or returned incomplete questionnaires were excluded from the study.

Measurement tool

Prior to data collection, necessary permissions were obtained from the university, and the study objectives and methods were explained to the students. Informed consent was obtained from all participants, who were assured of the confidentiality of their information and their freedom to withdraw from the study at any time. A demographic form was used to collect data on age, gender, marital status, educational level, faculty, and discipline. The standard SERVQUAL questionnaire, designed by Parasuraman et al. [5], was employed to assess perceptions and expectations regarding the quality of educational services in five dimensions: tangibility, reliability, assurance, empathy, and responsiveness. It has 30 items rated on a 5-point Likert scale; one to measure students' expectations rated from 5= Excellent to 1=

Very poor and one to measure their perception of the received services rated from 5= Extremely important to 1= Not at all important. Items 1-4 measure tangibility; items 5-9 measure reliability; items 10-20 measure assurance; items 21-25 measure empathy; and items 26-30 measure responsiveness. The gap in service quality can be calculated by subtracting the students' perceptions from their expectations. A positive gap score shows the higher service quality while a negative score indicates shortfalls in offering service where students' expectations are greater than their perception level. We used its Persian version which has good validity and reliability ($\alpha=0.90$) according to Arbabisarjou et al [6] and has been used in other studies in Iran by Kavosi et al. [9].

Data analysis

The data entered into the analysis in SPSS v.21 software using descriptive statistics (mean, standard deviation, frequency, percentage) and statistical tests including paired t-tests (for comparing the scores of perceptions and expectations towards service quality), independent t-test (for comparing the scores of perceptions and expectations in terms of gender), and one-way. The significance level was set as $p<0.05$.

Results

Incomplete questionnaires (N=40) were excluded from the study. Hence Of 642 students, 267 were male and 375 females with

a mean age of 22.9 ± 4.24 years (ranged 18-45 years). Most of them were single studying medicine at the School of Medicine. For more information, see Table 1. The mean scores of students' perceptions and expectations for each SERVQUAL dimensions are presented in Table 2. As can be seen, their expectations were higher than their perceptions in all dimensions (except in responsiveness) and the difference were significant according to the results of the paired t-test shown in Table 3 ($P<0.05$). The mean overall scores of students' perceptions and expectations were 84.59 ± 21.76 and 118.02 ± 17.36 , respectively. Their highest perceptions and expectations were related to the assurance dimension. So, the highest negative gap in providing service quality was related to assurance (-15.17), while the lowest negative gap was related to tangibility (-4.85). The total service quality gap score was negative (-33.43).

In comparing the mean scores of perceptions and expectations between male and female students using an independent t-test, results showed that the expectations of female students towards all SERVQUAL dimensions were higher than those of male students; however, this difference was not significant. Regarding their perception scores, male students had higher scores only in the dimensions of tangibility, assurance, and empathy. However, these differences were statistically significant only in their expectations of empathy (Table 4).

Table 1. Demographic characteristics of study participants

Characteristics	Category	N	%	Characteristics	Category	N	%
Educational level	Associate	19	3	Field of study	Medicine	233	36.3
	Undergraduate	270	42		Nursing	154	24.0
	Postgraduate	9	1.4		Pharmacy	55	8.6
Gender	MD	344	53.6		Dentistry	72	11.2
	Male	267	58.4		Laboratory sciences	32	5.0
	Female	375	41.6		Health	46	7.2
	Medicine	266	41.4		Information Technology	4	.6
Faculty	Nursing & Midwifery	155	24.1		Operating room	26	4.0
	Pharmacy	54	8.4		Anesthesia	20	3.1
	Dentistry	73	11.4	Single	537	83.6	
	Paramedical Sciences	48	7.5	Marital status	Married	105	16.4
	Health & Nutrition	46	7.2				

Table 2. Mean scores of perceptions and expectations for each component of SERVQUAL dimensions

Dimension	Components	Perceptions	Expectations	Quality gap
Tangibility	Teaching staff appearance	3.46	4.34	-0.88
	Visual appeal of physical facilities (infrastructure)	2.80	4.14	-1.34
	Visual appeal of educational materials	2.85	4.13	-1.28
	Appropriateness of university facilities (library, internet facility, etc.)	2.85	4.22	-1.37
	Overall	11.97	16.85	-4.88
Reliability	Fulfilling the promises made	3.01	4.19	-1.18
	Providing services at the time it promised to do so	2.74	4.14	-1.4
	Informing the students of their evaluation records	2.99	4.21	-1.22
	Giving a better score if more effort is made by the student	3.06	4.24	-1.18
	Presentation of lessons in an organized and related fashion	3.10	4.29	-1.14
Overall	14.93	21.10	-6.17	
Assurance	Facilitating the classroom discussion about the study subject	3.10	4.22	-1.12
	Providing related and up-to-date resources with 24-hour availability for further study	2.78	4.17	-1.39
	Preparing students for future careers by providing theoretical and practical education	2.80	4.21	-1.41
	Appropriate relationships between teachers and students	3.06	4.29	-1.23
	Providing feedback at different stages of education	2.93	4.16	-1.23
	Providing sufficient counseling hours	2.71	4.13	-1.42
	Providing high-quality educational programs	2.75	4.22	-1.47
	Providing a variety of extra-curricular educational programs	2.52	4.14	-1.62
	Providing lessons with a flexible structure	2.75	4.13	-1.38
	The university provides renowned educational programs	2.48	4.04	-1.56
Overall	30.71	45.88	-15.17	
Empathy	Giving not many assignments to students	2.90	4.16	-1.26
	The teaching staff gives individual attention to students in a non-discriminatory way	2.64	4.19	-1.55
	Resolving the specific needs of each student confidentially	2.78	4.20	-1.42
	The teaching staff treats students properly	2.69	4.26	-1.57
	The teaching staff has respectful behavior toward students	3.06	4.35	-1.29
Overall	14.07	21.19	-7.12	
Responsiveness	Students' easy access to management staff to convey their views on educational issues	2.71	4.22	-1.51
	Existence of a feedback system to improve the quality of educational services	2.66	4.21	-1.56
	There are standard methods and procedures at the University	2.63	4.25	-1.62
	Availability of teachers when needed	2.6078	4.2422	-1.6344
	Equal and non-discriminatory behavior at university	2.3609	4.3047	-1.9357
Overall	12.99	12.99	0	

Table 3. Paired t-test results from comparing the mean overall scores of perceptions and expectations in each SERVQUAL dimensions

SERVQUAL scales	Mean	SD	Mean difference	T	df	Sig.
Tangibility	Expectation	16.85	3.04	4.88	28.653	640
	Perception	11.97	3.16			
Reliability	Expectation	21.10	3.75	6.17	28.877	640
	Perception	14.93	4.08			
Assurance	Expectation	45.88	8.10	15.17	31.494	640
	Perception	30.71	8.45			
Empathy	Expectation	21.19	3.86	7.12	29.816	638
	Perception	14.07	4.39			
Responsiveness	Expectation	12.99	4.66	0	-	-
	Perception	12.99	4.66			
Total	Expectation	118.02	17.36	33.43	32.844	639
	Perception	84.59	21.76			

Table 4. Independent *t*-test results from comparing the mean scores of perceptions and expectations in each SERVQUAL dimension categorized based on gender

Dimension	Gender	Mean	SD	t	df	Sig.
Tangibility (Expectation)	Female	16.92	3.07	0.771	639	0.441
	Male	16.73	3.017			
Tangibility (Perception)	Female	11.88	3.087	-0.794	639	0.428
	Male	12.08	3.270			
Reliability (Expectation)	Female	21.23	3.70	1.127	639	0.260
	Male	20.89	3.84			
Reliability (Perception)	Female	14.97	4.023	0.290	639	0.772
	Male	14.88	4.173			
Assurance (Expectation)	Female	46.07	8.14	0.776	639	0.438
	Male	45.57	8.12			
Assurance (Perception)	Female	30.67	8.275	-0.139	639	0.890
	Male	30.77	8.737			
Empathy (Expectation)	Female	21.43	3.710	2.008	639	0.045*
	Male	20.80	4.097			
Empathy (Perception)	Female	14.08	4.291	-0.134	639	0.894
	Male	14.12	4.589			
Responsiveness (Expectation)	Female	13.02	4.538	0.182	639	0.856
	Male	12.95	4.834			
Responsiveness (Perception)	Female	13.02	4.538	0.182	639	0.856
	Male	12.95	4.834			
Total (Expectation)	Female	118.78	17.05	1.307	639	0.192
	Male	116.97	17.78			
Total (Perception)	Female	84.64	21.29	-0.105	639	0.916
	Male	84.82	22.78			

In comparing the mean scores of students' perceptions and expectations between faculties at LUMS using one-way ANOVA (Table 5), results showed that the expectations of students in all faculties were higher than their perceptions towards all SERVQUAL dimensions except in responsiveness which was equal and related to the School of Health & Nutrition. The highest mean of expectations in tangibility (17.31 ± 2.924) and reliability (21.49 ± 3.745) was observed at the School of Dentistry; while in empathy (21.50 ± 3.202) and assurance (46.96 ± 7.229) it was related to the School of Pharmacy; however, there was no significant difference in expectations of students between faculties ($p > 0.05$). Regarding their perception scores, the highest mean in all SERVQUAL dimensions was reported at the School of Health & Nutrition except in the dimension of tangibility where the students of the School of Pharmacy had higher perceived service quality (13.70 ± 2.469). The difference in perceptions of students between faculties was significant only in tangibility issues ($P = 0.003 < 0.05$).

Discussion

This study aimed to evaluate the quality of educational services at LUMS, located in Khorramabad, Iran. Utilizing the SERVQUAL instrument, the assessment revealed a negative gap between students' expectations and their perceptions of the educational services provided by LUMS across all dimensions of service quality, with the exception of "responsiveness," where no gap was observed. The most significant negative quality gap identified pertained to the "assurance" dimension, which reflects the competence and ability of the staff (both teaching and management) to instill trust and confidence in students. The pronounced negative gap in this area may be attributed to the substantial workload and responsibilities of the teaching staff, which resulted in diminished attention to teaching quality, limited engagement in extracurricular course implementation, and insufficient responsiveness to students' demands for adequate consultations.

Table 5. comparing the mean scores of perceptions and expectations in each SERVQUAL dimension categorized based on faculty

Dimension	Faculty	Mean	SD	Total	F	df	Sig.
Tangibility (Expectation)	Medicine	16.90	3.13	16.84(3.04)	1.094	641	0.363
	Nursing & Midwifery	16.43	3.32				
	Pharmacy	17.22	2.32				
	Dentistry	17.31	2.92				
	Paramedical Sciences	16.75	2.94				
	Health & Nutrition	16.82	2.50				
Tangibility (Perception)	Medicine	11.75	3.36	11.97(3.16)	4.250	640	0.003
	Nursing & Midwifery	12.05	2.81				
	Pharmacy	13.70	2.46				
	Dentistry	11.73	3.01				
	Paramedical Sciences	11.20	3.90				
	Health & Nutrition	12.02	2.54				
Reliability (Expectation)	Medicine	21.20	3.84	21.09(3.76)	0.420	641	0.835
	Nursing & Midwifery	20.82	3.93				
	Pharmacy	21.07	3.78				
	Dentistry	21.49	3.74				
	Paramedical Sciences	20.95	2.94				
	Health & Nutrition	20.84	3.50				
Reliability (Perception)	Medicine	14.56	4.40	14.93(4.08)	3.277	640	0.701
	Nursing & Midwifery	15.32	3.60				
	Pharmacy	15.92	3.45				
	Dentistry	14.61	3.76				
	Paramedical Sciences	13.77	5.05				
	Health & Nutrition	16.28	3.05				
Empathy (Expectation)	Medicine	21.06	4.17	21.17(3.88)	0.691	640	0.590
	Nursing & Midwifery	21.38	3.68				
	Pharmacy	21.50	3.20				
	Dentistry	21.47	3.97				
	Paramedical Sciences	20.97	3.16				
	Health & Nutrition	20.39	4.04				
Empathy (Perception)	Medicine	13.81	4.66	14.09(4.41)	4.437	639	0.112
	Nursing & Midwifery	13.85	4.22				
	Pharmacy	15.61	3.21				
	Dentistry	13.23	4.08				
	Paramedical Sciences	13.93	4.99				
	Health & Nutrition	16.23	3.77				
Responsiveness (Expectation)	Medicine	12.45	5.002	12.99(4.66)	3.628	640	0.631
	Nursing & Midwifery	13.14	4.512				
	Pharmacy	14.51	3.045				
	Dentistry	12.28	4.568				
	Paramedical Sciences	13.08	4.837				
	Health & Nutrition	14.76	3.888				
Responsiveness (Perception)	Medicine	12.45	5.002	12.99(4.66)	3.628	640	0.067
	Nursing & Midwifery	13.14	4.512				
	Pharmacy	14.51	3.045				
	Dentistry	12.28	4.568				
	Paramedical Sciences	13.08	4.837				
	Health & Nutrition	14.76	3.888				
Assurance (Expectation)	Medicine	45.73	8.53	45.86(8.12)	0.745	641	0.130
	Nursing & Midwifery	45.41	8.15				
	Pharmacy	46.96	7.22				
	Dentistry	46.90	7.82				
	Paramedical Sciences	46.29	6.61				
	Health & Nutrition	44.73	8.59				
Assurance (Perception)	Medicine	30.09	9.29	30.71(8.45)	2.434	640	0.119
	Nursing & Midwifery	30.76	7.25				
	Pharmacy	32.88	6.11				
	Dentistry	29.61	8.77				
	Paramedical Sciences	30.31	10.00				
	Health & Nutrition	33.69	6.32				

Conversely, the increased admission rate across various medical fields, without due consideration of the university's infrastructure, resources, and facilities, has constrained the university officials' ability to address course quality and design. Consequently, their focus has been directed towards basic tasks of organizing and providing infrastructure for students. The smallest negative gap in this study was associated with the "tangibility" dimension, indicating that infrastructure, educational materials, staff appearance, and university facilities have successfully captured students' attention visually, although quality gaps persist. The parity between students' expectations and perceptions regarding responsiveness is attributed to their easy access to managers and teaching staff, allowing them to express views, criticisms, and suggestions concerning educational issues.

Numerous studies have evaluated service quality in higher education using the SERVQUAL questionnaire. Almost all studies conducted in Iran have demonstrated that students' expectations in universities exceed their perceptions of the current situation, with expectations unmet across all SERVQUAL dimensions [9-13,15,19]. The highest negative quality gap in the studies by Kavosi et al. and Shamsi was related to assurance, aligning with the present findings [9,20].

In contrast, studies by Sharah [10], Shams [20], Norouzinia [15], Mohamadi [11], Jafarinejad et al. [13], and Shams et al. [20] reported discrepancies in the dimensions of empathy, reliability, and responsiveness, which contradict the current results. This inconsistency may stem from variations in universities' financial capabilities, academic degrees, disciplines, and even the number of students and their expectations.

Studies conducted in other countries using the SERVQUAL questionnaire, such as the research by Al-Alak and Alnaser, examined the relationship between service quality dimensions and overall service quality in relation to undergraduate students' satisfaction at the University of Jordan. The study demonstrated that four dimensions of service

quality—tangibility, reliability, assurance, and empathy—exhibited a significant positive correlation with student satisfaction, with the assurance dimension being of paramount importance [21]. This finding aligns with the present study's results.

In contrast, Yousapronpaiboon's research identified a discrepancy between undergraduate students' perceptions and expectations across all five dimensions of service quality at a private university in Thailand, with the reliability dimension exhibiting the most substantial negative gap [22]. This finding contradicts the current study's results.

Datta and Vardhan explored the disparity between perceptions and expectations at campus universities in the United Arab Emirates, revealing a significant divergence between students' expectations of management education and their perceptions across all five service quality dimensions. The assurance dimension exhibited the most pronounced service quality gap [8]. Similarly, Anastasios et al. conducted a study at ASPETE University in Greece, assessing the quality of educational services, and reported a gap across all quality dimensions, with the assurance dimension showing the greatest deviation. These findings are consistent with the current study's results regarding the dimension with the highest negative gap; however, no quality gap was observed in the responsiveness dimension [7].

Conclusion

In conclusion, enhancing the assurance, reliability, empathy, and tangibility dimensions to reduce the gap between medical students' perceptions and expectations may improve the quality of educational services provided by medical universities in LUMS. The study encountered several limitations, including the lack of cooperation from students with PhD degrees. Given the variability in university environments and the services provided, as well as the differing perceptions and expectations of students at various institutions, the results of this study may not be

generalizable to other universities. Additional limitations included potential collusion among students when completing the questionnaire and the use of a self-report instrument for data collection. These issues were addressed by the researcher's presence, providing explanations, and allowing participants to complete the questionnaires a second time if necessary.

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Ethical approval

Permission to conduct the present study was obtained from the Ethics Committee of Lorestan University of Medical Sciences (IR.LUMS.REC.1402.311). Participants were provided with information about the research objectives, they were assured that the information gathered would remain confidential. Informed consent forms were also obtained from all participants, and they were assured that leaving the study would not have any negative consequences.

Conflict of Interests

Authors declare that they do not have any conflict interests.

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