Quality Gap of Educational Services in Viewpoints of Students in Hormozgan University of Medical Sciences

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Abstract

Background and Purpose*: Higher education is growing fast and every day it becomes more and more exposed to globalization processes. The aim of this study was to determine the quality gap of educational services by using a modified SERVQUAL instrument among students in Hormozgan University of Medical Sciences*

Methods*: In this cross-sectional study, a total of 300 students were randomly selected from all students of Hormozgan University of Medical Science and were asked to fill a questionnaire that was designed according to SERVQUAL method. This questionnaire measures students' perceptions and expectations in five dimensions of service that consists of assurance, responsiveness, empathy, reliability and tangibles. The quality gap of educational services was determined based on differences between students' perceptions and expectations.*

Results*: The results demonstrated that in all of the five SERVQUAL dimensions, there was a negative quality gap. The least and the most negative quality gap mean were in reliability (-0.71) and responsiveness (-1.14) respectively. Also there were significant differences between perceptions and expectations of students in all of the five SERVQUAL dimensions ($p<0.001$).*

Conclusion: *Negative quality gap means students' expectations are more than their perceptions. So improvements are needed across all of the five dimensions.*

Key words*: QUALITY GAP, EDUCATIONAL SERVICES, STUDENT, BANDAR ABBAS*

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Introduction

Higher education institutions are increasingly placing greater emphasis on meeting students' expectations and needs. As universities continue to become more student oriented, student perception of higher educational facilities and services are becoming more important (1).

Educational services quality, with emphasis on students' satisfaction, is a newly emerging field of concern in medical sciences universities of Iran.

The contradictory meanings of quality education have led to the adoption of different methods for measuring quality in higher education (2). Most of the studies focused on either measuring teaching quality or evaluating students' learning experiences (3-5).

Interest in the measurement of service quality is high. However, as highlighted by several

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researchers, service quality is an elusive and abstract concept that is difficult to define and measure (6-8).For several years, academic researchers measured service quality by employing uni-dimensional scales. While uni-dimensional scales are inappropriate to measure a multi-dimensional concept like quality (9).Parasuraman, Zeithmal and Berry constructed a multi-item scale of perceived service quality. This scale is SERVQUAL. The SERVQUAL instrument represents a multi-item scale that can be used for measuring perceptions and expectations of service quality- as perceived among consumers(10).This scale assesses customers' perceptions and expectations of service quality along five dimensions: tangibles (the appearance of the school physical facilities, equipment, personal, and communication materials), reliability (the school's ability to perform the promised services dependably and accurately), responsiveness (the school's willingness to help students and provide prompt service), assurance(the knowledge and courtesy of school office staff/faculty and their ability to convey trust and confidence) and empathy (the school office staff's and faculty's ability to provide a caring and individualized attention to students).(9)

Berry suggests that service plays an important role in enhancing value, and can positively influence a firm's success. Understanding and measuring customer expectations and performance are an essential component that can be used to enhance a company's service provision (11). The aim of this study was to determine the quality gap of educational services by using a modified SERVQUAL instrument among students in Hormozgan University of Medical Sciences. This study helps to locate areas of performance where improvements are needed, or where resources could be better utilized elsewhere.

Parasuraman et al., (1988) defined service quality as the gap between consumers' expectations and perceptions (10).Gap analysis is not new in a higher educational context, and a number of studies have been influenced by the work of Parasurman et al (10). For example, Long et al (1999) used "gap analysis" to develop a number of questions in order to compare what students "look for" (expect) and what they "experience" on a course (12). Sander et al. (2000) meanwhile examined undergraduates' expectations and preferences in teaching, learning and assessment (13). LaBay and Comm(2003) also developed a number of measures to evaluate student expectations and perceptions, concerning their tutor, on a sample of undergraduate and distance learning students (14).

Methods and Materials

Subjects: The study population consisted of students in Hormozgan University of Medical Sciences in 2006. This university has three schools including medical school, health school and nursing and midwifery school and is located in Hormozgan province in the south of Iran. The subjects were students in general medicine, family health, disease control, environmental health, medical entomology, radiology, operation room, anesthesia, medical records, laboratory sciences, and nursing and midwifery fields. A total of 300 students were selected through multi-stage sampling. To this end proportional to the number of students in each school, the number of students in each course and educational level, the number of subjects was determined in each group. Then in each group the subjects were selected randomly. Only the students who had studied at least one term were included in the study.

Instrument: The instrument was an adaptation of the SERVQUAL survey. The original SERVQUAL survey was specifically designed to assess organizations and businesses in the service sector (10). Some changes were made to adapt this study's survey to an academic setting. So this adaptation of the SERVQUAL survey was made up of twenty-seven parallel Likert's scale items measuring five postulated dimensions of service quality which consist of tangibles (4 items), reliability (7 items), responsiveness (5 items), assurance (5 items), and empathy (6 items).

The students were first asked to rate how the

educational services quality is (students' perceptions of current condition).To do so they were asked to select one response in each item including very good, good, moderate, poor and very poor. They were then asked to rate how important each item is to the quality of service provided (students' expectations of optimal condition).In order to do this, the students selected one response including very important, important, moderate, less important and least important. Each item was scored from 1 to 5 so that 1 represents very poor/least important and 5 represents very good/very important. In each dimension, the scores of items were added up and the result was divided by the number of its items. So the score of perceptions and expectations of students in each dimension is from 1 to 5.

The difference between perceptions (P) and expectations (E), (P-E=Q) represents the measure of service quality (Q). Where Q is negative, a service gap exists. However, where Q is positive, students' perceptions are more than their expectations.

Data Analysis: Descriptive statistics, paired t-test, Wilcoxon, Friedman and ANOVA were used to evaluate and analyze the data by SPSS13. The means were used to compare the students' perceptions and expectations of educational service quality and the gap between them.

Results

The mean age of students was 21.5±1.9 year. Of all participants, 115 (38.3%) were male and 185(61.7%) were female. In this university, female students outnumber their male peers;147 (49%) studied for an associate degree, 82(27.3%) studied for Bachelor of Science (BS) degree and 71(23.7%) studied for MD degree; 71 (23.7%) were in medical school, 152(50.6%) were in nursing and midwifery school and 77(25.7%) were in health school; 71(23.7%) were students in medicine, 22 (7.3%) in family health, 17(5.7%) in disease control, 20(6.7%) in environmental health, 19(6.3%) in medical entomology, 18(6%) in radiology, 13(4.3%) in operation room, 17(5.7%) in anesthesia, 19(6.3%) in medical documents, 16(5.3%) in laboratory sciences, 34(11.3%) in nursing and 34(11.3%) in midwifery.

The results indicated that in all of the five SERVQUAL dimensions, there were negative quality gaps. The least and the most negative quality gaps mean were in reliability and responsiveness dimensions respectively (table 1).There were significant differences between perceptions and expectations of students in all of the five SERVQUAL dimensions ($p<0.001$). Also there were statistically significant differences between negative quality gaps in all of the five SERVQUAL dimensions (Friedman test: $X^2=86.4$, $p<0.001$). The differences between negative quality gaps in all of the five SERVQUAL dimensions, except between assurance dimension and empathy and tangibles dimensions, were significant ($p<0.001$).These dimensions, with regard to negative quality gap, can be classified into three groups, so that responsiveness dimension is placed in first group,

Table1. Mean score of the students perceptions, expectations and service gaps in five SERVQUAL dimensions

Service Dimensions	Perception	Expectation	Service gaps	Paired T-Test	
				t	p
Assurance	3.23±0.64	4.13±0.78	-0.89±0.91	-16.8	<0.001
Responsiveness	2.78±0.70	3.92±0.86	-1.14±1.03	-18.9	<0.001
Empathy	3.07±0.69	4.03±0.87	-0.95±0.91	-17.9	<0.001
Reliability	3.37±.061	4.07±0.77	-0.71±0.81	-15.1	<0.001
Tangibles	3.10±0.79	3.94±0.91	-0.84±1.05	-13.9	<0.001
Total service quality	3.13±.054	4.03±0.75	-0.89±0.78	-19.6	<0.001

assurance, empathy and tangibles dimensions are placed in second group and reliability dimension is placed in the third group.

Also the results showed that in all of the items there was negative quality gap (table 2), and there were significant differences between perceptions and expectations of students in all of them ($p<0.001$).

There was no significant difference between perceptions of the students studied for the Associate degree , Bachelor of Science (BS) degree and MD degree, but there were significant differences between expectations of them (table 3).

Discussion

The aim of this study was to determine the quality gap of educational services using a modified SERVQUAL instrument among students in Hormozgan University of Medical Sciences. As the results show in all of the five SERVQUAL dimensions, there is a negative quality gap. The results confirm the results of Kebriaei A and Roudbari M (15), Braddley(16) and Clare Chua(17) studies. Negative quality gap means students' expectations are more than their perceptions and it indicates dissatisfaction. Thus, improvements are needed across all of the five SERVQUAL dimensions.

In this study, the least and the most negative quality gap are in reliability and responsiveness dimensions respectively. The results support the results of Kebriaei A and Roudbari M study in Zahedan University of Medical Sciences. In a similar study conducted by Carl A.Ruby, there were negative quality gaps in reliability, assurance, responsiveness and empathy dimensions, but there was a positive quality gap in tangibles dimension; in this dimension, students' perception of educational services quality was more than their expectations (18).The result of Carl A.Ruby study in tangibles dimension doesn't support the result of this study in this dimension. In Carl A.Ruby study, the most negative quality gap was in reliability dimension, followed by responsiveness and empathy dimensions, and the least negative quality gap was in assurance dimension (18).In Clare Chua study concerning the educational services quality in Ryerson University at Toronto, the most negative quality gap was in assurance dimension, followed by responsiveness, tangibles and empathy dimensions, and the least negative quality gap was in reliability dimension (17).

The negative quality gap in all of the five SERVQUAL dimensions and their items indicate that in order to improve educational services quality some measures need to be taken. The most negative quality gap was in responsiveness dimension. This dimension indicates the school's willingness to help students and provide prompt services; it also reflects the sensibility and cautions to students' demands, questions and complains (17, 19). The most negative quality gap in this dimension and its items indicates that supervisors are not much accessible when students need them, students don't have easy access to the administrator to express their viewpoints and suggestions regarding the curriculum, students' viewpoints and suggestions are not considered in curriculum, little attention is paid to introducing suitable references to students for reading and the supervisor's counseling hours are not aptly and properly specified.

Also negative quality gap in other dimensions indicates that responsibilities have not been fulfilled well to meet students' expectations. Given to the viewpoints of most students and negative quality gap in all of the five SERVQUAL dimensions, in order to reduce these gaps, the following educational workshops are suggested: "how to communicate with students", "increasing staff skills" and "effective communication of faculty members and students". On the other hand, supervisors should have a schedule for counseling the students and students should be informed well about it. Also the administrators should plan working hours of faculty members so that they have enough time for counseling, faculty members should be accessible outside of class to answer students' questions, students should have easy access to the administrator to express their viewpoints and suggestions concerning the curriculum and

Table2. Mean score of the students perceptions, expectations and service gaps in all of SERVQUAL items

Items	Perception	Expectation	Service gaps	Paired T-Test t	Paired T-Test p
Assurance					
1. Facilitating discussion and interaction about lessons in class	3.36	4.08	-0.72	-10.4	<0.001
2. Qualifying students for future job	2.98	4.24	-1.26	-16.4	<0.001
3. Accessibility of faculty members outside of class to answer students' questions	3.07	3.80	-0.73	-9.40	<0.001
4. Accessibility of adequate references to increase students' professional knowledge	3.38	4.20	-0.81	-11.1	<0.001
5. Faculty members professional knowledge adequacy	3.39	4.32	-0.93	-13.5	<0.001
Responsiveness					
6. Supervisors accessibility when students need them	3.00	4.03	-1.03	-11.7	<0.001
7. Easy accessibility of administrators for students to express views about the curriculum	2.45	3.86	-1.41	-16.5	<0.001
8. Considering students' views and suggestions in curriculum	2.40	3.92	-1.51	-17.6	<0.001
9. Introducing suitable references to students for reading	3.38	4.08	-0.70	-9.80	<0.001
10. Declaring hours that students can refer to faculties to talk about educational problems	2.70	3.73	-1.03	-12.6	<0.001
Empathy					
11. Assigning suitable and relevant homework	3.10	3.64	-0.54	-7.10	<0.001
12. Faculty members flexibility when exposing to specific conditions of each student	2.77	4.04	-1.27	-15.1	<0.001
13. Convenience of class hours	2.99	4.06	-1.07	-12.8	<0.001
14. Existence of silent and convenient place in school for reading	2.98	4.03	-1.05	-12.7	<0.001
15. Respectful treatment of school staff with students	3.03	4.04	-1.00	-11.7	<0.001
16. Respectful treatment of faculty members with students	3.56	4.35	-0.79	-12.3	<0.001
Reliability					
17. Presenting educational content regularly and relevant	3.43	4.16	-0.72	-10.6	<0.001
18. Informing students concerning the result of examinations	3.07	3.79	-0.72	-9.60	<0.001
19. Presenting materials and content understandably	3.26	4.28	-1.01	-15.2	<0.001
20. Gaining higher scores if students attempt more	3.43	4.05	-0.61	-7.90	<0.001
21. Recording students' educational documents without mistake	3.54	3.98	-0.43	-6.10	<0.001
22. Easy accessibility of available references in university	3.45	4.23	-0.78	-11.1	<0.001
23. Fulfilling responsibilities by faculty members and staff in the promised time	3.39	4.05	-0.66	-9.60	<0.001
Tangibles					
24. Neat ant professional appearance of faculty members and staff	3.51	3.86	-0.35	-4.70	<0.001
25. Visual appealing and comfort of physical facilities	2.40	3.93	-1.53	-17.8	<0.001
26. Material and educational equipment being up to date	3.33	4.10	-0.77	-10.5	<0.001
27. Visual appealing of teaching tools	3.15	3.86	-0.71	-9.40	<0.001

Table 3. Comparaison of the students' perceptions, expectations and service gaps in different educational levels

Service Dimensions	Educational Degree	Perception	Expectation	gaps Service
Assurance	Associate degree	3.31	4.06	-0.74
	Bachelor of Science	3.16	4.01	-0.85
	Medical Doctor	3.1	4.40	-1.23
	ANOVA*	p**=0.15	p<0.004	p<0.001
Responsiveness	Associate degree	2.80	3.80	-0.99
	Bachelor of Science	2.84	3.90	-1.06
	Medical Doctor	2.68	4.20	-1.52
	ANOVA*	p=0.35	p<0.005	p<0.001
Empathy	Associate degree	3.13	3.90	-0.76
	Bachelor of Science	2.97	3.95	-0.98
	Medical Doctor	3.06	4.36	-1.30
	ANOVA*	p=0.24	p<0.001	p<0.001
Reliability	Associate degree	3.44	3.95	-0.51
	Bachelor of Science	3.31	4.06	-0.75
	Medical Doctor	3.28	4.35	-1.07
	ANOVA*	p=0.12	p<0.002	p<0.001
Tangibles	Associate degree	3.16	3.81	-0.64
	Bachelor of Science	2.98	3.92	-0.94
	General medicine	3.10	4.23	-1.13
	ANOVA*	p=0.2	p<0.005	p<0.003
Total service quality	Associate degree	3.19	3.91	-0.72
	Bachelor of Science	3.07	3.98	-0.90
	Medical Doctor	3.08	4.32	-1.24
	ANOVA*	p=0.17	p<0.001	p<0.001

* *Oneway ANOVA*
** *p.value*

educational problems and finally students' viewpoints and suggestions should be considered in curriculum.

In this study there was no significant difference between students' perceptions studied for Associate degree, Bachelor of Science (BS) and general medicine, but there was a significant difference between expectations of them. In general, medical students have more expectations from educational services quality. Also negative quality gap pereieved by medical students was more than other disciplines. Thus, in order to reduce negative quality gap in this discipline, more attention should be paid to their expectations.

The negative quality gap in service dimensions can be used as a guideline for planning and allocation of resources (20). Thus, the five SERVQUAL dimensions can be classified to three priority groups for allocation of resources and organizational attempts to eliminate or reduce

negative quality gaps, so that responsiveness dimension is placed in the first priority, assurance, empathy and tangibles dimensions are placed in the second priority and reliability dimension is placed in the last priority. If the mentioned priorities are taken into account and the quality gap is attended to, the resultant improved will benefit other dimensions as well. Since negative quality gap (or quality improvement) in one dimension, in customers' viewpoint, can affect negative quality gap (or quality improvement) in other dimensions (21). Due to the diversity of courses and educational levels in other universities and having different facilities, equipment, staff and faculty members, the results of this study are not generalizable to all. Hence it is recommended that every university carry out a similar study so that a model with more conformity will be produced for planning to improve educational services quality.

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