RESULTS OF THE SERVICE QUALITY SURVEY OF THE NURSING SCHOOLS

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Summary

The competitiveness of a service organization is expressed through service quality (Lewis 1989). Good quality services or high client satisfaction is very important to contemporary service organizations (hung 2003). The service quality is important both for public and private businesses and service sectors (Zahari 2008).

Therefore, we used SERVQUAL model in our study which looks at the gap between the expectations of the trainees or clients and the perception of actual services they received in order to define and evaluate quality.

As the higher education system is rapidly developing in the increasingly globalized world, The universities of highly developed countries like European Union, US, Japan and even China, South Africa, Malaysia, Greece and Iran, are using SERVQUAL model to evaluate their training service quality. Therefore, the purpose of our research was to evaluate quality of training services provided by public nursing schools using SERVQUAL (Model of Service Quality), which is widely used throughout the world.

The survey was conducted using random sampling among 545 students studying in 4 urban and rural nursing schools or medical colleges in 2011. all indicators of SERVQUAL model showed in overall negative gap results and the lowest gap result or the least scored dimensions of service quality was empathy(-0.07) and tangibles (-0.08). Total service quality was (0.10) or positive. there was a significant gap (p < 0.001) between the students' expectations and perceptions in all five indicators of SERVQUAL.

The needs and socio-economic status of students enrolled in the nursing schools differ widely depending on the location, whether it is the capital city or rural areas. That is why the expectations of nursing students are different which leads to diverse and contrasting perception gaps on the services they receiver service quality.

Key words: nursing school, training service quality, SERVQUAL model

The higher education training organizations are universities, institutes and colleges. Until the amendment to the Law on Education in 2006 an organization that provides education training had had a non-profit status by the law (the amendment made in 1998 which allowed the school to work for profit lasted until 2002). In 2006 when the law allowed the schools to operate for profit, many public and private schools emerged to prepare doctors and health specialists. The quality of higher education organization is guaranteed by:

– Monitoring and evaluation department of the Ministry of Education, Culture and Science;
– National accreditation;
– Professional ministry and its affiliates;
– Organizational internal audit.

Agreed criteria for quality of services provided by educational organizations are still not in place despite the clear need for such.

The monitoring and evaluation is shifting from traditional approach that emphasized implementation to the result-based new approach. In other words, this approach is not limited by the analysis of inputs and outputs only but looks at "what happened as a result" the results and impact. "Evaluation is a process to define quality and value of something". Therefore, evaluation is an important part of the educational activities. Evaluating quality of service organizations is a very important factor in the competitiveness of the organization. Quality and processes of services of the health and educational sectors continually change depending on many factors, various stakeholders and their interaction.

The self-evaluation of the school or the M&E offers advantages like offering realistic evaluation of changes and trends of training, academic research and professional operations, opportunity to develop capacity and definition of quality and value used in improving quality of training, expanding the school's internal M&E.

There are 22 state owned colleges operating in Mongolia. In this study we purposed to evaluate quality of services provided by the school of Health Technology and the Medical Colleges of Gobi-Altai, Darkhan-Uul, Dornogobi aimags, and to determine whether the cur-

rent training services meet the expectations of the clients based on client satisfaction.

INTRODUCTION

Because the training process continually changes depending on many factors and relations of many stakeholders we can identify many factors that influence the quality of services provided by educational organizations. The search of better methods to evaluate such abstract concept like quality is going on. Though the service sector has not yet brought about a methodology to inspect service quality at the level of the inspection done on quality of material items or products, the quality inspection methods used in production sector can also be applied. requirements and criteria for quality are becoming increasingly stricter and higher within the framework of trends and operations of higher education reform.

The evaluation of education sector service quality is specific as it measures abstract features that are not seen by eyes or handled by hands. The training activities are immaterial services and, therefore, it is important to translate them into tangibles. For example, T. Levit, professor of Harvard Business School of the USA, said that "packaging" is more important than knowledge of the contents of the services provided by the service organization.

In education sector school facilities, classrooms, textbook appearance and looks, lecture material and all items used for training are indicators to express service quality. Most of the immaterial part is processes or activities. The activities are interlinked processes of many stakeholders, it is evaluated by attitudes and relations of teachers, methodologists, and employees who are performing them. In order to render quality services, employees need to be taught well and continuously on the processes, which is the first step of improving quality assessment of intangible part of the services.

In 1985 A. Parasuraman, professor of US Miami University, first developed this model (Model of Service Quality) to study the quality of services which were slightly modified to produce a questionnaire with 27 questions on perceptions and expectations organized into 2 chapters and 5 basic indicators, which is used for determining of quality of training services. By doing so the researchers were enabled to trade their traditional uni-dimensional method of evaluating quality with a multi-dimensional one, which allows viewing quality from multiple angles. This helps to locate areas which need improvement or areas where resources could be better utilized (11).

INNOVATIVE ASPECT

This research is the first work which studied the quality of services of medical training of Mongolia based on the gap between the expectations and perceptions of the students about the services they received, determining whether this gap is kept on positive level, and, furthermore, whether a positive performance is kept in all five indicators by continuous quality improvement, thus delivering services that meet expectations of the clients.

PURPOSE

The purpose of this research is to evaluate quality of nursing education training of medical colleges using SERVQUAL (Model of Service Quality) model.

OBJECTIVES

1. Study training quality of each medical college using SERVQUAL (Model of Service Quality).
2. Define quality of training by five indicators (tangibles, reliability, response, assurance, empathy) of SERVQUAL (Model of Service Quality) model.
3. Study and compare training results and processes of quality in each of four state-owned medical colleges.

RESEARCH TOOLS AND METHODOLOGY

Research method and model: This research is conducted by random sampling by cross-sectional descriptive method. SERVQUAL model was used to define the expectations and perceptions by questionnaire with two chapters and 27 parallel questions, each question evaluated by Likert scale of up to 5 scores.

Scope and sampling: In correspondence to the purpose of the research work, the research population was 5415 students of four urban and rural medical colleges.

The optimum sampling size was determined in the following way:

$$n = \frac{z^2 * p * q + ME^2}{ME^2 + \frac{z^2 * p * q}{N}}$$

Here:
n – is the size of the sampling set
ME – error margin
p – detection probability
q – non-detection probability
N – size of population

The formula above is used in calculations to determine that the optimum size of the sample is 510.

The quantitative data collected by SERVQUAL model was processed and analyzed using SPSS 15.0, SPSS-Amos 19.0 and Windows Excel programs. Statistical indicators like average, maximum and minimum amount, mode and median were calculated on each indicator , in addition, statistical tests like Wilcoxon criteria, ANOVA, Friedman, Pearson correlation and t-test were used in order to verify the results.

RESULTS OF THE RESEARCH

The research was conducted in 2011 covering 545 students aged between 16-35 studying in 1-5 grades in four urban and rural medical colleges preparing nurses. The research included 194 male students (35.7%), 350 female students (64.3%).

The Servqual questionnaire covered undergraduate students of the School of Health Technology – 167 (30.6%), Gobi-Altai medical college – 118 (21.6%), Darkhan medical college – 150 (27.5%), Dornogobi aimag's medical college – 110 (20.1%).

The number of respondents by grades are the following: first grade - 170 (32.6%), second grade -166

Table 1. Mean level of the students perceptions, expectations and service gaps in all of SERVQUAL items.

Items	P*	E**	Service Gaps	Paired t	T-Test P
Assurance					
1. Facilitating discussion and interaction about lessons in class	3.45	3.53	-0.07	-2.089	‹0.001
2. Qualifying students for future job	3.53	3.62	-0.09	-2.559	‹0.001
3. Accessibility of faculty members outside of class to Answer students' questions	3.31	3.31	0	0.158	‹0.001
4. Accessibility of adequate references to increase students' professional knowledge	3.3	3.32	-0.01	-0.511	‹0.001
5. Faculty members professional knowledge adequacy	3.84	3.91	-0.07	-2.126	‹0.001
Responsiveness					
6. Supervisors accessibility when students need them	3.24	3.26	-0.01	-0.431	‹0.001
7. Easy accessibility of administrators for students to express views about the curriculum	3.02	3.1	-0.07	-2.075	‹0.001
8. Considering students' views and suggestions in curriculum	3.01	3.07	-0.06	-1.564	‹0.001
9. Introducing suitable references to students for reading	3.1	3.12	-0.02	-0.523	‹0.001
10. Declaring hours that students can refer to faculties to talk about educational problems	2.84	2.93	-0.08	-1.95	‹0.001
Empathy					
11. Assigning suitable and relevant homework	3.42	3.5	-0.07	-2.061	‹0.001
12. Faculty members flexibility when exposing to specific conditions of each student	3.4	3.43	-0.03	-0.976	‹0.001
13 Convenience of class hours	3.7	3.8	-0.09	-2.779	‹0.001
14. Existence of silent and convenient place in school for reading	3.04	3.12	-0.08	-1.91	‹0.001
15. Respectful treatment of school staff with students	3.24	3.31	-0.07	-1.791	‹0.001
16. Respectful treatment of faculty members with students	3.42	3.55	-0.12	-3.508	‹0.001
Reliability					
17. Presenting educational content regularly and relevant	3.24	3.28	-0.04	-1.219	‹0.001
18. Informing students concerning the result of examinations	3.61	3.7	-0.09	-2.883	‹0.001
19. Presenting materials and content understandably	3.65	3.61	0.04	1.201	‹0.001
20. Gaining higher scores if students attempt more	3.5	3.53	-0.03	-0.943	‹0.001
21. Recording students' educational documents without mistake	3.57	3.68	-0.11	-3.122	‹0.001
22. Easy accessibility of available references in university	3.14	3.22	-0.08	-1.986	‹0.001
23. Fulfilling responsibilities by faculty members and staff in the promised time	3.45	3.52	-0.06	-1.912	‹0.001
Tangibles					
24. Neat ant professional appearance of faculty members and staff	3.82	3.84	-0.01	-0.542	‹0.001
25. Visual appealing and comfort of physical facilities	3.25	3.34	-0.08	-2.217	‹0.001
26. Material and educational equipment being up to date	3.31	3.46	-0.15	-4.127	‹0.001
27. Visual appealing of teaching tools	3.44	3.51	-0.06	-1.836	‹0.001

*Perception
**Expectation

(31.8%), third grade – 115 (22%), fourth grade – 46 (8%), fifth grade – 22 (4.2%) (tab. 1).

The research results showed that quality of training in the schools that prepare mid-level health workers do not differ by location whether it is urban or rural (fig. 1).

Gap on each of 5 SERVQUAL model indicators turned out to be negative and the lowest score was given to the service quality dimension of tangibles (-0.08) as well as empathy (-0.07). The general gap of service quality was (0.10) which is positive, meaning the education services provided by the state-owned medical colleges are satisfying the students. Also the gap between the students' perceptions and expectations was significant in all five indicators of the SERVQUAL model ($p < 0.001$) (tab. 2).

The results of the research revealed negative gaps on Results (-0.05) and processes (-0.06). Especially there is a need to improve coordination and consolidation of multi-stakeholders in the process of delivering the training services and to emphasize relations and attitudes which will create the basis of reducing gap between the perceptions of actual abstract services through the processes and expectations (tab. 3).

The table 4 demonstrates that the students of the medical colleges gave the highest score on assurance (22.39). The weakest service dimension that is affecting worsening of the quality of training services is empathy (16.22), and the next problematic service dimension is response (18.92).

SERVQUAL model is designed to evaluate the quality by 27 parallel questions with prerequisites evaluated by 0-5 scores on Likert scale which estimate assurance (5 items), response (5 items), empathy (6 items), reliability (7 items) and tangibles (4 items). This questionnaire was tested by Kebriaei and Roudbari on students in Iran's Medical School, Zahedan University. The results of the research were used in South African, Iranian Hormozgan University in 2007 which studied 300 students to define the quality of services by five dimensions of service and gap or quality of services turned out negative in each dimension. The lowest or the most negative gaps were in the reliability (-0.71) and assurance (-1.14). When compared to our research results the two are similar as all five dimensions of the service quality had negative quality gaps. However, reliability had (-0.05) 14.2 times, assurance (-0.05) 22.8 times lower negative means which show relatively less of the problem where teachers' knowledge, skills and attitude are poorly impressing and assuring the students. Also gap between students' perceptions and expectations are significantly different in all five dimensions of SERVQUAL($p < 0.001$). The difference is that in overall the service quality results were positive.
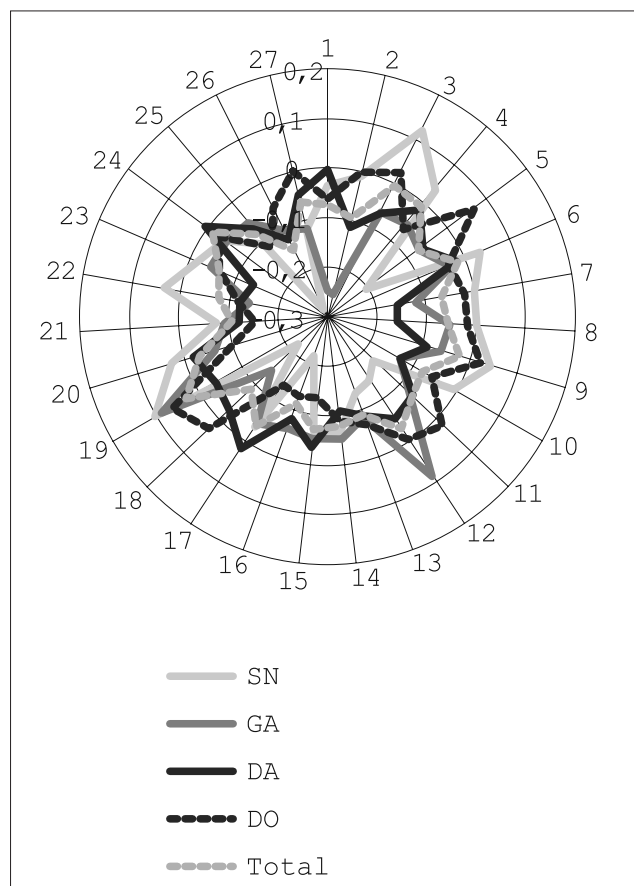

Fig. 1. Results for each medical college.

Table 2. Mean level of the students perceptions, expectations and service gaps in five SERVQUAL dimensions.

Service Dimensions	Perceptions	Expectations	Service gaps	Paired T-Test	
				t	P
Assurance	3.48 ± 0.75	3.54 ± 0.71	-0.05 ± 0.50	-2.335	‹0.001
Responsiveness	3.04 ± 0.90	3.10 ± 0.88	-0.05 ± 0.64	-1.862	‹0.001
Empathy	3.34 ± 0.79	3.45 ± 0.76	-0.07 ± 0.57	-3.142	‹0.001
Reliability	3.45 ± 0.77	3.51 ± 0.75	-0.05 ± 0.53	-2.322	‹0.001
Tangibles	3.46 ± 0.90	3.54 ± 0.88	-0.08 ± 0.62	-2.959	‹0.001
Total service quality	3.54 ± 0.71	3.43 ± 0.69	0.10 ± 0.39	6.117	‹0.001

Table 3. Mean level of the results, processes and services gaps in five Servgual dimensions by medical colleges.

Service Dimensions		Perceptions	Expectations	Service gaps	Paired T-Test	
					t	P
Results	Reliability	3.45 ± 0.77	3.51 ± 0.75	-0.05 ± 0.53	-2.322	‹0.001
Processes	Assurance	3.33 ± 0.71	3.40 ± 0.70	-0.06 ± 0.46	-3.248	‹0.001
	Responsiveness					
	Empathy					
	Tangibles					

Table 4. Evaluation of the direction from the best to the weakest services.

| Medical colleges		Students	Assurance	Responsiveness	Empathy	Reliability	Tangibles
School of Health Technology	Mean	136	21.3162	18.8235	17.8824	20.0294	20.2353
	Std. Deviation		11.71748	6.80728	7.14616	8.58158	10.89834
Gobi-Altai Medical College	Mean	114	23.114	18.1316	16.6754	20.1842	17.7632
	Std. Deviation		10.02542	7.48865	8.60284	7.91052	10.37893
Darkhan Medical College	Mean	150	22.7067	18.7	14.7667	21.3867	17.3933
	Std. Deviation		9.58435	13.11424	6.84578	8.77595	7.67537
Dornogobi Medical College	Mean	110	22.5636	20.2	15.6636	19.2273	21.4091
	Std. Deviation		9.63797	8.12268	7.93353	7.89107	11.54115
Total	Mean	510	22.3961	18.9294	16.2176	20.2902	19.1
	Std. Deviation		10.29429	9.47227	7.65807	8.36203	10.19514
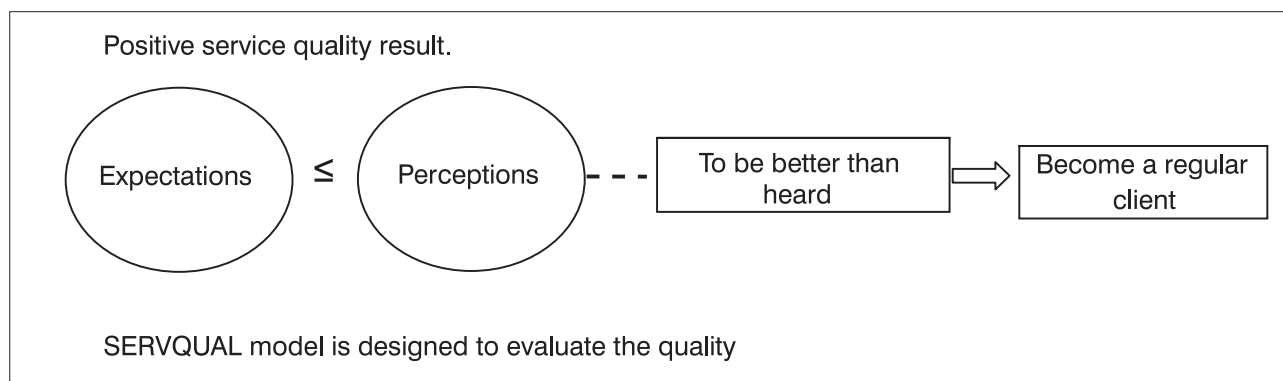
Fig. 2. Positive service quality result.

CONCLUSIONS

1. Assessment of service quality in affiliated schools showed that the quality of service of schools preparing mid-level health workers are the same despite differences locations in urban or rural areas.
2. The perceptions of students after receiving actual training services are less than the expectations they had in all five dimensions /assurance, empathy, responsiveness, reliability and tangibles/ but the general score on service quality is positive (0.10) which means the services are meeting the expectations of the clients.
3. Assurance of students in teachers of affiliated schools is (22.39) which is an advantage, a need to improve responsiveness and emphasize empathy was identified.

THINGS THAT NEED CONSIDERATION

The basis of improving quality is to work on tackling issues like how to develop higher education sector?

What knowledge, understanding and skills are important for the student to properly perform on the job? Which skills need to be emphasized? These issues need to be evaluated in consultation with graduates, workers and researchers and considered when improving quality. These skills not only represent dynamic correlation between skills and character/attitudes but also the object of the education program. Skills are acquired differently depending on the grade, therefore, need to be assessed considering the learning stage.

Define what the students have learned, understood or what they can do after the training as result thereof. The training results should be manifested from meeting the minimum requirements for training credit.

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