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Evaluation of products and services of a nursing library: user satisfaction

Artigo Original

EVALUATION OF PRODUCTS AND SERVICES OF A NURSING LIBRARY: USER SATISFACTION[1]

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The goal of the study was to evaluate the quality of the services provided by the library at the Nursing School of the University of São Paulo. A questionnaire evaluating users' satisfaction with the service was employed, covering five quality components: tangibles, reliability, responsiveness, assurance and empathy. The Satisfaction Rate was calculated through the degree of importance in relation to satisfaction. The analysis of the open-ended answers was quanti-qualitative. For Reliability and Empathy, the users showed dissatisfaction with the training for bibliographic research and the librarian's willingness to meet the clients' information needs, respectively. Responsiveness did not fully satisfy the users, disagreeing with the providers. However, both agreed that the archives are outdated. Among the tangible aspects, equipment and noise were criticized most often. The results show that the library offers good service quality to its users.

DESCRIPTORS: libraries, nursing; library materials; consumer satisfaction; nursing

EVALUACIÓN DE LOS PRODUCTOS Y SERVICIOS EN UNA BIBLIOTECA DE ENFERMERÍA: SATISFACCIÓN DEL USUARIO

El estudio tuvo por objetivo evaluar la calidad de la atención en la biblioteca de la Escuela de Enfermería de la Universidad de São Paulo. Se utilizó un cuestionario que evalúa la satisfacción del usuario a través de cinco componentes de calidad: tangible, confiable, receptivo, seguridad y empatía. La Tasa de Satisfacción se calculó mediante la razón entre el grado de importancia y satisfacción. El análisis de las preguntas abiertas fue cuanti-cualitativo. En Confiabilidad y Empatía, los usuarios se mostraron insatisfechos con los entrenamientos para búsqueda bibliográfica y sobre el empeño del empleado para atender las necesidades de los clientes. Los usuarios no estuvieron plenamente satisfechos con la receptividad, sin embargo ambos concordaron que la bibliografía estaba desactualizada. Dentro de los aspectos tangibles, los equipos y el ruido fueron los más criticados. Los resultados demostraron que la biblioteca ofrece servicio de calidad a sus usuarios.

DESCRIPTORES: bibliotecas de enfermería; materiales bibliográficos; satisfacción de los consumidores; enfermería

AVALIAÇÃO DOS PRODUTOS E SERVIÇOS DE UMA BIBLIOTECA DE ENFERMAGEM: SATISFAÇÃO DO USUÁRIO

O estudo teve por objetivo avaliar a qualidade do atendimento da biblioteca da Escola de Enfermagem da Universidade de São Paulo. Utilizou-se questionário que avalia a satisfação do usuário com o serviço através de cinco componentes da qualidade: tangibilidade, confiabilidade, receptividade, segurança e empatia. A taxa de satisfação foi calculada pela razão entre grau de importância e de satisfação. A análise das perguntas abertas foi quanti-qualitativa. Em confiabilidade e empatia, os usuários mostraram-se insatisfeitos quanto aos treinamentos de busca bibliográfica e ao empenho do funcionário da biblioteca em atender as necessidades de informação dos clientes, respectivamente. A receptividade não satisfez os usuários plenamente, discordando dos prestadores, porém, ambos concordam que o acervo está desatualizado. Equipamentos e ruídos foram, dentre os aspectos tangíveis, os mais criticados. Os resultados evidenciaram que a biblioteca oferece serviço de qualidade aos seus usuários.

DESCRITORES: bibliotecas de enfermagem; acervo de biblioteca; satisfação dos consumidores; enfermagem

Disponible en castellano/Disponível em língua portuguesa

INTRODUCTION

*T*he increasing search for high-quality service pushes companies to improve their work methods in order to valuate their products in order to grant them a better image in the market. Information services, including libraries, are examples of a market with a high rotation of users and data, which need to renew regularly in order to be up-to-date with technological advances, and also to satisfy their clients.

Since "service is an act or performance that benefits clients through a desired change in – or on behalf of – the service receiver"[1], the focus of the renewal of libraries are the users, represented by their opinion about the service provided, from the availability of information in the various databases to the performance of the professional providing services there. At university libraries, concerns about quality are even higher, because the users need the information for their educational, research and extension processes. The constant evaluation of the service is indispensable to adapt and update the products and services at the speed demanded by the clients.

For an effective response to the demands and specificities of the community libraries' management and work practices should be reorganized[2], with the indispensable creation and application of quality indicators according to the profile of the users and their expectations about the service and products offered[3].

The clients' expectations are the true standards to evaluate the quality of the service[4]. The results obtained by two researchers[4] showed that the clients evaluated the quality of the service by comparing what they expect with what they receive. The clients' expectations of the services can be differentiated in two levels: a desired level, reflecting the service the client expects to receive (the relation of what *can be* with what *should be*), and an adequate level, which points to what the client considers acceptable. When there is a small or inexistent discrepancy between these levels, service performance is satisfactory.

In the past years, the Integrated Library System of the University of São Paulo (SIBi/USP) has striven for quality through constant technological renewal. In 2001, the first strategic planning for the implementation of a new management model for the SIBi/USP was presented, the Quality Assessment Program (PAQ), whose objective was to develop a continuous methodology to evaluate the quality of products and services offered to SIBi/USP clients[5].

Therefore, people responsible for the PAQ created an instrument based on a model used for the evaluation of service quality, the SERVQUAL[6].

SERVQUAL is a scale that measures the consumers' perception about the quality of services in five *Gaps* (Figure 1), which show the criteria considered by the consumers in their final judgment about the quality of services, making it easier for service managers to understand the problems that may possibly hinder the full satisfaction of the clients. The analysis of the consumers' answers allowed the researchers[7] to identify dimensions of satisfaction: *Responsiveness* (willingness to help the clients and provide service quickly); *Assurance* (the knowledge and courtesy of the employees, and their ability to convey trust and responsibility); *Tangibles* (appearance of the physical facilities and personnel); *Reliability* (ability to perform the service accurately, according to what was promised) and *Empathy* (individual attention given to clients).
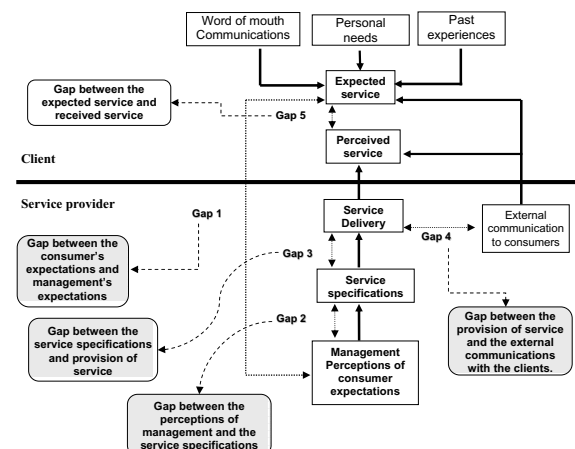
Source: Parasuraman A, Zeithaml V, Berry LL. A conceptual model of service quality and its implications for future research. J Marketing. 1985;49:41-50. (Reprinted with the authorization of Journal of Marketing, published by the American Marketing Association)

Figure 1 – A model proposed to represent the gaps in the client-company relationship

The use of this scale in the evaluation of library services first happened in a study[8] that generated the paper *Service Quality in Academic Libraries*, and provided suggestions for the evaluation of library services, especially in the academic community.

The evaluation of the services provided by the library permits a review of service goals, how it works and the management model, pushing the evolution process of self-criticism and promoting, with its results, the solution of the problems identified in the institution through the testimonies of all those involved in the evaluation process.

MATERIAL AND METHOD

This is a cross-sectional, descriptive study. The project was approved by the Ethics Committee at the University of São Paulo School of Nursing (EE/USP) and the Research Commission of the EE/USP.

The study population consisted of internal users (faculty, graduate and undergraduate students, specialization students and assorted EE/USP employees) and external users (faculty, graduate students, specialization students, students from other schools, healthcare professionals, among others) of the Wanda de Aguiar Horta library at EE/USP. A proportional random sample was extracted from the faculty, undergraduate students and *stricto sensu* graduate students of the EE/USP, in order to guarantee that the smallest category would include at least 30 subjects. Therefore, the final sample was composed of 31 faculty, 82 graduate students and 127 undergraduate students. The amount of 30 individuals was intentionally set for the following categories: specialization students, EE/USP employees and external users. Ten library employees present at the time of data collection also received the questionnaires. Collection started in December, 2004 and ended in May, 2005.

Two hundred thirty-two questionnaires were answered, 129 from undergraduate students, 26 from faculty, 31 from graduate students (*stricto sensu*), 12 from specialization students, 19 from EEUSP employees and 15 from external users, which represented 70.3% of the initially determined sample, excluding the library employees.

The questionnaire used for data collection was elaborated from a pre-existent questionnaire used by SIBi/USP in its PAQ. This instrument consisted of Likert-style questions covering the five dimensions of quality: *tangibles* (physical presentation of the environment (T1), equipment (T2), communication material (T3)), *reliability* (employees that inspire trust (C1), security and reliability of the information provided (C2), security and reliability in training for information access (C3), reliable orientation about the selection of information sources (C4), reliable information on the library website (C5)), *responsiveness* (providing services within the promised time frame (R1), quickness in the lending service (R2), flexibility in the lending process among the USP libraries (R3), quickness in the reprographic service (R4), provision of copies of documents from other libraries (commuting) within an acceptable time frame (R5), quickness/agility in the acquisition of

books, journals and other publications (R6), updated archives (R7), efficiency in the safekeeping of material and organization of the archives (R8), provision of online services (R9), adequate working hours (R10)), *assurance* (employees that were qualified to answer questions (A1), accessible and polite employees (A2), employees that know how to use the electronic information sources (A3), skillful use of equipment (A4)) and *empathy* (attentive service (E1), efforts to see to the information needs (E2), individual attention (E3), ease of communication with the employee (E4), employee's attitude (E5)), evaluated according to the Degree of Importance and the Degree of Satisfaction.

Since the instrument was also applied to the library employees (providers), the results obtained from *Gap f*, named as such by the authors of this project, could be associated to represent the service providers' perception about their own performance, understanding that the Degree of Importance these employees attributed to the service would represent what they consider important as the service standards and that the Degree of Satisfaction would represent their performance as providers.

Open-ended questions were included in the questionnaire to validate the respondents' opinion in relation to five pre-conceived dimensions of quality and the need to apprehend specific information about the library.

Satisfaction of the client and the service provider was calculated as indicated by the authors responsible for the scale[4]:

Relative satisfaction rate (TSR) = (Value attributed to satisfaction ¸ Value attributed to importance) × 100.

The difference of the TSR obtained for the user up to full satisfaction (100% - TSR) corresponds to *Gap 5*, and the difference of the TSR obtained for the service provider up to full satisfaction (100%) corresponds to *Gap f*. Both gaps can be positive values (the service does not fully satisfy the expectations), equal to 100% (the service satisfies the expectations) or negative (satisfaction with the service is higher than expected).

For the TSR analysis, the use of medians was chosen, so that the central measurement would not be strongly influenced by extreme values, and because the satisfaction of some users was higher than their expectations, which could offset the satisfaction average. Intergroup comparison was done with the variance analysis test, and a significance level of 5% was adopted. For the analysis of the open-ended questions, the central theme was identified with a later recoding of the answers to allow for a quantitative-qualitative analysis.

RESULTS AND DISCUSSION

Undergraduate students were the users most often present at the library, since they are at school every day, and because they need to develop study, evaluation, seminar and other activities demanded by the Nursing course. The opposite situation occurred with external users, since these seek the service for specific research. Weekly utilization was the frequency modality most respondents mentioned most often.

The use of the library by graduate students was inexpressive. The research activities performed by this group demand a higher frequency of library use. However, this result could be attributed to the availability and ease to access electronically-stored information.

Table 1 – Distribution of the respondents, in categories, according to the frequency of use of the Wanda de Aguiar Horta library (EEUSP), São Paulo, 2005

Category	Daily		Weekly		Bi-weekly		Monthly		Rarely		Never used		Total	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Undergraduate 1st year	7	20.6	19	55.9	4	11.8	1	2.9	3	8.8	-	-	34	14.6
Undergraduate 2nd year	6	21.4	17	60.7	3	10.7	2	7.1	-	-	-	-	28	12.1
Undergraduate 3rd year	7	20.6	18	52.9	4	11.8	2	5.9	3	8.8	-	-	34	14.6
Undergraduate 4th year	2	6.1	20	60.6	6	18.2	5	15.2	-	-	-	-	33	14.2
Professor	-	-	8	30.8	7	26.9	7	26.9	4	15.4	-	-	26	11.2
Graduate	2	6.5	12	38.7	5	16.1	7	22.6	4	12.9	1	3.2	31	13.4
Specialization	-	-	5	41.7	-	-	4	33.3	2	16.7	1	8.3	12	5.2
EEUSP employee	3	15.8	-	-	2	10.5	-	-	7	36.8	7	36.8	19	8.2
External user	2	13.3	2	13.3	-	-	2	13.3	9	60.0	-	-	15	6.5
Total	29	12.5	101	43.5	31	13.4	30	12.9	32	13.8	9	3.9	232	100

Among the dimensions of quality, Responsiveness (Figure 2) showed the highest difference of full satisfaction with the service: Eight out of ten indicators of this dimension presented a *Gap 5* of 25%. Although this result does not represent a significant difference between what is perceived and what is expected from the service, it stands out because responsiveness is highlighted as the second most important dimension for service quality[9].
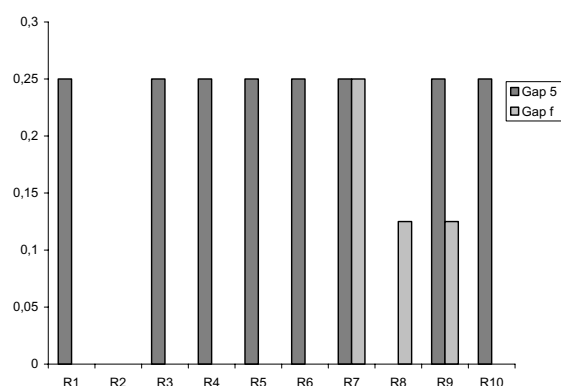

Figure 2 – Distribution of the values for *Gap* 5 and *f* according to the responsiveness indicator (R). Wanda de Aguiar Horta Library (EEUSP), São Paulo, 2005

The archives deserve priority to fully meet the user's expectations, since the indicator *up-to-date archives* (R7) presented a 25% *Gap,* for both users and employees, besides obtaining a high frequency of open-ended answers, indicating the existence of outdated topics in the archives. In the indicator *Provision of online services* (R9), the 25% *Gap* notes the need to offer more services to the users, such as requests for copies of articles.

The difference observed in indicators R7, R9 and *Efficiency in the safekeeping of material and organization of the archives* (R8), as evaluated by the providers, shows that they acknowledge the importance of storing the material, indispensable to find a given text or book, and this service deserves more attention. A misplaced text or book may be considered lost, and this activity reflects the organization of the service directly.

In the dimension *Assurance*, only the indicators *Employees who were qualified to answer questions* (A1), and *Employees who know how to use the electronic information sources* (A3) generated a *Gap 5* of 25% among the users, both related to the technical capacity of the providers. In order to have the users evaluate the quality of the archive, someone needs to introduce them to the resources available for bibliographic research and how they can obtain the material they need. The users were fully satisfied with the indicator *Accessible and polite employees* (A2), different from the employees, where a *Gap f* of 12.5% was identified. The employees attribute a degree of importance to this dimension that is not fully reproduced in communication with the users.

For Tangibles, the users and the providers consensually determined that the indicator *Equipments* (T2) has a *Gap* of 25% to full satisfaction. Even though Parasuraman considers this dimension the least important for the quality of service[9], as a result of technological advances, computers have become indispensable for good information services in libraries. According to the providers, the indicator *communication material* (T3), a valuable resource to advertise the services provided, also obtained a *Gap f* of 25%.

Although users are satisfied with indicator T3, the results of the open-ended questions show that the providers know the importance of the communication material better than the users. For the open-ended question about the interest of *some sort of training in capacitating courses for the user*, 89.4% of the respondents mentioned training programs related to bibliographic research, a course that is currently offered by the library. This is an evident failure in the advertisement of the courses.

The same was observed in the answers about *interest in some sort of service the library does not offer yet*, where 41.1% of affirmative answers mentioned the desire for courses habitually offered by the library. For the same question, 11.8% explicitly suggest that the library should advertise its services.

The individual life history of the providers and the encouragement they receive during their working hours are factors that can influence the clients' evaluation of a service, since the behavior and the attitudes of the employee can interfere negatively in professional activity, especially when the work is articulated by interaction and communication with the clients. Besides professional motivation, this could explain the result obtained for the indicator *Efforts to see to the necessities of information* (E2) of the dimension *Empathy*, in which the users showed a *Gap 5* of 25%. For the indicator *employee's attitude* (E5), a *Gap f* value of 25% shows that the providers can improve their interpersonal relationship, although users do not perceive this gap in the providers' performance.

In a study where SERVQUAL was used, it was observed that the key dimension for client perception about an evaluated service is *Reliability*, since this is

the client's guarantee that the requested services will be done correctly and precisely[10]. In this dimension, the only indicator that did not obtain full satisfaction among the users was *Security and reliability in the training for information access* (C3).

The providers still need to improve their training strategies, so that they can convey more trust to the users. Because of the *Gaps f* of the providers, it was observed that the *reliable information on the library's website* (C5) needs to be improved and depends on frequent evaluation of the library's webpage by the providers themselves, so that updates can be executed.

When the TSR averages among the categories of respondents are compared by the ANOVA test, statistically significant differences are observed in the dimension *Responsiveness* for the indicators R2 (p=0.040), R3 (p=0.005), R6 (p=0.031), R7 (p=0.006) and R10 (p=0.011); in the dimension *Assurance*, only for A3 (p=0.047); in the dimension *Tangibles*, for T1 (p=0.014); and in the dimension *Empathy*, for E1 (p=0.013), E2 (p=0.004) and E5 (p=0.040).

For the category *indication of books for acquisition*, it was noticed that, except for the professors, the library users do not indicate books for acquisition, probably because this possibility is not advertised. Besides requesting the purchase of the books that comprise the list of references for the courses, the faculties are regularly asked to indicate books when the library receives grants to enlarge its archives.

In the question about *outdated topics in the archives*, a little more than half of the respondents mentioned at least one outdated topic, highlighting themes from the Nursing area itself. This result is controversial for a specialized library, but possible because of the budgetary difficulties of the public school. Technological advances in healthcare demand frequent acquisitions of books and, due to their high costs, students resort to book loans more and more frequently.

Suggestions about the *library facilities* and *what they would change in the library* mainly pointed to aspects related to the environment, library facilities and equipment. In the *"environment and facilities"* category, they appointed actions for the reduction of

noise, enlargement of the physical space and improvements in the comfort of the spaces destined to studying. In *"equipment",* the amount and condition of the computers for research was emphasized, supporting the difference in the indicator T2 of the dimension Tangibles (*Gap 5* of 25%) by at least half of the users.

Regarding what the respondent users *most like* or *most dislike* in the library, opinions diverged. "*Environment and facilities*", "*archives*" and "*service*" were most often mentioned positively, while "*archives*", "*noise*" and "*service*" were most often mentioned as reasons for dissatisfaction. When referring to the dimension Empathy, the indicators of service presented *Gap* equal or lower than 25%, indicating that, in the open-ended questions, the respondents express their opinions better. Another controversy resides in the fact that *"environment and facilities"* have received a higher quantitative amount of suggestions for change. Users tend to overly valuate the physical aspects of the environment, even though comfort is essential for intellectual activities.

The better educated the clients are, the less sensitive they are to the tangible dimensions[4]. The tangible dimension does not convince the user, but factors like cleanliness, good ventilation and lighting, when present and adequate, aid in the decision of choice or purchase.

FINAL CONSIDERATIONS

These data accomplished the goal of evaluating user satisfaction regarding the services and products of the "Wanda de Aguiar Horta" library, by understanding its clients' direct perception of the services/products provided, as well as the impression they have of the providers. The results showed that, despite the gaps observed in some indicators, the library offers good service quality to its users, since 88% of the respondents evaluated the service as good or excellent. The *gaps f* of the providers were important to identify gaps that may be improved through initiatives taken by the service providers themselves, and also those that need to be discussed at higher decision-making levels.

The identification of undergraduate students as the main library users shows that their needs should be considered when purchasing books. On the other hand, the less frequent library use by graduate students deserves further investigation. Since this group needs to perform systematic literature reviews to develop projects, it is important to know whether the non-use of the library happens because the archives and the services provided are insufficient; if the electronic searches and virtual libraries are meeting the student's library needs, or if the graduate students are not dedicating themselves to studying as required by graduate programs. In any case, since many graduate students did not answer the instrument, the amount of data is insufficient for further considerations.

Institutional communication (advertising, promotion and announcement of services), even in public services, also affects the client's expectations directly, as seen in the analysis of the answers obtained with the open-ended questions, where several respondents cite the need to advertise the services and products offered by the library. On the other hand, others refer to the negative influence inefficient advertising can exert on client satisfaction. Therefore, investing in institutional communication can be an efficient strategy to improve the quality of the library evaluated.

The analysis of the *gaps 5* showed that the following aspects deserve more attention from the library with a view to meeting users' needs: updating the archives, the communication system and the equipment, advertising the services and training programs, behavior of users and providers in maintaining of silence within the library environment, and accessibility for the providers.

The open-ended questions were important to validate some indicators of the Likert scale. They revealed that users also wanted extended work hours of the library and more efficiency in reprographic services.

After evaluating the results obtained by this research, the Wanda de Aguiar Horta library was considered to provide services with good quality, satisfying most of its users and the service providers themselves, presenting only a few punctual problems that will serve as parameters to improve its services even more.

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