Methodological Approach: Students Assessment of Academic Institution as Basis for Successful Achievement of their Satisfaction

Koviljka Banjević[1)]

Aleksandra Nastasić[1)]

1) Visoka škola strukovnih studija – Beogradska politehnika, Belgrade, Serbia

Abstract: *In contemporary environment of higher education students' evaluation of institution is an important activity of the legal process of self-evaluation, and is achieved by measuring the level of their satisfaction. The development of an adequate methodological approach (which determines the level of satisfaction and importance of each measured factor) and application of appropriate software package is the basis for detecting critical factors and implementation of appropriate measures and improvements with aim of permanent increase of students' satisfaction. This paper presents a methodological approach applied in the process of student evaluation of higher education. The values of Cronbah – α used for testing indicators, defined in the operationalization of the research, indicate their validity and reliability, and confirm the stability of sets of variables.*

Keywords: *methodology, students' evaluation, key factors, satisfaction*

1. INTRODUCTION

Changes in the external environment of higher education institutions have required from all participants behavior that is characterized by efficiency, flexibility and agility. The present system of higher education involves students as active participants in the process of quality assurance: of curriculum, teaching and working conditions (Law on Higher Education, Article 15). In accordance to the Standards for self-evaluation and assessment of the quality of higher education institutions, students' participation is provided through the Students' Union and student representatives in the bodies of the institution, and through interviewing students about their perception of the degree to which the educational service meets their expectations (standard 13).
The main objective of this work is the methodological approach to the process of student evaluation of institution, applied in the College of Vocational Studies - Belgrade Polytechnics. This kind of research is innovation in the higher education in Serbia, so the importance of this work is reflected in contribution to the process of operationalization of the applied methodology, by which was confirmed the validity and reliability of a defined questionnaire.

2. THEORETICAL BACKGROUND

In a market economy, customer satisfaction is the basic goal and condition for the existence of every organization.

Institutions of higher education depend on their primary customers (students), and it is necessary to understand students' current and future needs and expectations, to meet their requirements and provide more than students expect. As already noted, the present concept of higher education involves students as active participants in the process of quality assurance. "Customer (learner) satisfaction is his/her perception of the degree to which the learners' requirements have been fulfilled. (ISO 9000, IWA 2:2007 (E) 16)". Although the complaints of users are common indicator of low satisfaction, lack of complaints does not mean that a high degree of satisfaction is ensured. Therefore, it is necessary to interview the students about their satisfaction of institution's services.

Numerous articles are focused on the analysis of customer satisfaction in general, and on analysis of student satisfaction with services of higher education institution. From literature review, the greatest impact on service quality achieves the following factors:

1) *Harvey (1995):* library services; computer services; dining facilities; housing services; course organization and assessment; teaching staff and teaching style; teaching methods; student workload and assessment; social life; self-development; financial conditions/aid; University environment.

2) *Aldridge and Rowley (1998):* college/personal tutor system; good food at reasonable prices; communication/publicity rights in student union; training opportunities for students serving on committees; feedback opportunities regarding the course and service through questionnaires.

3) *Cardone et al. (2001):* clarity of professor's teaching; professor's enthusiasm; encouragement of participation in class by the professor; utility and interest of reading assignments and the recommended bibliography; professor punctuality.

4) *Hill (1995):* library services; computer facilities; catering service; housing services; course content; personal contact with teaching staff; teaching methods; teaching quality; student involvement; work experience; financial services; feedback; advising services; University bookshop; welfare counseling; health services; student union; physical education; travel agency.

5) *Elliot and Healy (2001):* academic advising effectiveness; campus climate; campus life; campus support services; concern for the individual; teaching effectiveness; recruitment and financial aid effectiveness; registration effectiveness; campus safety and security; service excellence; student acknowledgement.

6) *Raposo and Alves (2003):* learning and career; reputation and facilities of the University; availability and sympathy of staff.

From the above can be concluded, that factors which have influence on the students' satisfaction are not only related to the performance of higher education institutions. The great importance of students' satisfaction is devoted to aspects of students' living standards. In this paper, the emphasis was on measuring student satisfaction in higher education (educational process and non-teaching support).

3. METHODOLOGY

3.1 Research purpose and problem statement

The purpose of this study included a survey of students' satisfaction and importance with educational process and non-teaching support. In that context, this paper observed quality of the following factors: curriculum; education process (teaching); teachers; workspace; library services and computer facilities; information systems; students welfare; student services; quality of administration;

technical support; financial services; student standards and student involvement in school activities.

According to the needs of this paper, problem was assigned in the following question:

" What is the level of student satisfaction and importance which they give to the organization and implementation of the educational process and non-teaching support?"

The research questions were defined in order to obtain answers to the above problem.

3.2 Methodological approach

Research strategy was based on quantitative and qualitative paradigms. Implementation of quantitative research allowed collecting data on student satisfaction and importance, learners gave to defined parameters of the institution; and getting answers on the defined problem. Qualitative approach was applied in order to consider personal attitudes and opinions, and was realized through the open questions. The process of student evaluation was based on the descriptive research. Data was collected by survey methodology. Assessment of the institution was obtained by mean values of individual parameters.

3.3 Operationalization

Operationalization was done in order to translate the research problem and research questions into the indicators, with the aim of linking fundamental phenomena and processes. The research problem was based on measuring students' satisfaction and in line with that the **indicator of satisfaction** was introduced. This indicator was determined by level and importance of their satisfaction. Student satisfaction was measured by defined thirteen parameters which were assigned the meaning of indicators. Each indicator was determined by the corresponding number of variables, in accordance with the Standards for self-evaluation of higher education institutions. As a first indicator was assigned the **quality of curriculum** which included following variables: 1) availability of information about the curriculum in terms of its objectives, structure, etc.; 2) the possibility of acquiring general competences; 3) the possibility of acquiring professional knowledge and skills; 4) hierarchy and subjects coherence per academic year.

Indicator of **educational process** was determined by the following variables: 1) persistence of the implementation of teaching plan and courses' schedule; 2) compatibility of teaching plan and courses' schedule with students' expectations; 3) timeliness in introducing students with working plan and exam-preceding obligations of each course; 4) interactive teaching/learning; 5) encouraging students' creativity; 6) inclusion practices; 7) training students for teamwork, and 8) training students for independent work.

Teachers' indicator was determined by variables that affect on the teaching process: 1) teacher-student relationship; 2) teachers' persistence in implementing the working plan and 3) the ability of teachers in the presentation of course content.

Indicator of workspace quality was determined by the following variables: 1) technical equipment of classrooms; 2) working conditions in relation to existing equipment; 3) realization of educational process on several locations; and 4) microclimate conditions (lighting, heating, air conditioning, etc.).

Indicator of library services and computer facilities, which represent significant support in learning process, was determined by the following variables: 1) library contents; 2) actual contents; 3) availability of e-Contents; 4) availability of computer equipment in reading room; 5) working time of library; 6) working conditions in the reading room and 7) library staff–student relationship.

Indicator of information system

quality was introduced in the context of support for the realization of the educational process and was determined by the following variables: 1) information efficiency, 2) effectiveness of information, and 3) modes of information.

Indicator of students' welfare quality was determined by the following variables: 1) availability of services, 2) timeliness of service delivery, 3) provenance in solving specific requirements, and 4) the relationship of employees to the students.

Indicator of student services quality (in the implementation of the educational process significant place has service and non-teaching support provided by the implementation of activities that directly or indirectly affect on the process of study) was determined by: 1) the availability of student services; 2) timeliness of service delivery; 3) provenance in solving specific requirements and 4) the relationship of employees to the students.

Indicator of administration services was determined by the following variables: 1) the availability of administration services, 2) timeliness of service delivery, 3) provenance in solving specific requirements and 4) the relationship of employees to the students.

Indicator of technical support was determined by the variables: 1) provenance in solving specific students' requirements (scanning, CD and DVD burning, etc.) and 2) the hygienic conditions.

Indicator of financial services quality was determined by the variables: 1) the availability of financial services, and 2) the efficiency (timeliness) of financial services.

Indicator of students' standard was determined by: 1) students' satisfaction with intermediary services which School offers in order to assure the students' standards. The School is intermediary in the process of assurance students' standard, which includes students' accommodation service, the implementation of services for student loans and scholarships, students' catering service, insurance, various types of concessions, etc.

Indicator of students' involvement in school activities was determined by the following variables: 1) quality of work of the Students' Union, 2) students involvement in School activities through various forms of communication (surveys, petitions, complaints, suggestions, etc.), and 3) the availability of results (survey, comments, suggestions, etc.). In accordance with the principles of the present system of higher education students are placed in the centre of the educational process and given active participation in the process of quality assurance.

Collected data were tested by Cronbach α in order to verify validity and reliability of defined indicators. Data collected by survey were base for testing values of Cronbach α for pre-defined indicators. The results are shown in Table 1. In accordance with recommendations for empirical research, which consider the validity and reliability of indicators in the cases of $\alpha > 0.6$, the results obtained (shown in Table 1) indicate the reliability and validity of almost all defined indicators. Exceptions are the indicators of technical support quality and students' standard quality. The applied Cronbach α test indicate reliability and validity of sets of variables, and in the case of quality of students' standards it was not possible to carry out testing, since this specific indicator is determined with one variable. For indicator quality of technical support obtained results pointed out the unreliability of sets of variables, which may be a result of misunderstood meaning of the variables by respondents. The results for all other indicators pointed out the stability of sets of variables (within defined indicators).

Indicator	Cronbah – α for level of satisfaction	Cronbah – α for importance of every parameter
Satisfaction	0.9130	0.9392
Curriculum quality	0.7463	0.7859
Quality of the educational process	0.8378	0.8310
Teachers	0.7641	0.8108
The workspace quality	0.7440	0.7520
Quality of library services and computer facilities	0.8146	0.8936
Information system quality	0.8787	0.8927
Students` welfare quality	0.9086	0.9234
Students` services quality	0.9101	0.9261
Quality of administration services	0.9151	0.9284
Technical support quality	0.3412	0.5461
Financial services quality	0.9178	0.8989
Students' standard quality	/	/
Students involvement in school activities	0.8642	0.8609

Table 1 - Validity and reliability of indicators

3.4 Research Instruments

In accordance with defined research strategy, data were collected by questionnaire. The questionnaire was designed to measure defined indicators and variables from the following areas:

- organization and realization of the educational process and
- non-teaching support

The questionnaire consisted of two parts. The first part included demographic data about the students, the second part included evaluation of all explored parameters of institution.

3.5 Analytical units and sample

In the process of students' evaluation of the institution analytical unit represented College of vocational studies – Belgrade Polytechnics. In relation to the defined objective of this research, observed population consisted of all active undergraduate students. The first step in determining the representative sample related on definition of the relevant population. The observed institution, at the time of research, had 2090 active students. Relevant sample size was obtained using the software package, *Sample Size Calculator - Creative Research System*. The research process involved the 986 respondents, representing 47.18% of the total population. For population of 2090 students relevant sample size was 325 respondents. For the sample of 986 respondents achieved confidence interval was 2.27 and with the confidence level of 95% can be claimed that the relevant percentage of the population is between 48 and 52%. If assumed that 50% of respondents would answer the questions, then with a certainty of 95% it can be assumed that between 48% and 52% of the population would respond to the relevant questions. As consequence of achieved sample, confidence interval moved from usual 5% to about 2%. Presented results point out representativeness of achieved sample.

3.6 Data analysis and results review

The last phase of research was the analysis and presentation of results.

Analysis included three phases: data collection, translation of data into information, and making appropriate conclusions and implications. For data analysis and review of results, the software package SPSS (Statistical Package for Social Scientists) was used.

4. CONSLUSION

The main contribution of this work is the applied research instrument. The obtained values of coefficient Cronbach α indicate reliability and validity of defined indicators and point out the possibility for application of this instrument in the same or similar researches. It should be also emphasized the methodological contribution in the context of identifying the relative students' satisfaction (which is a multiplication of mean value for satisfaction of determined parameter and ratio of importance for that parameter and sum of importance of all parameters). Based on review of previously performed detailed analysis, management of School can detect strengths and weaknesses of the system and determine and control the realization of corrective/preventive actions and continual improvements in order to increase students' satisfaction.

.

REFERENCES:

[1] Aldridge, S., Rowley, J.: "Measuring customer satisfaction in higher education", Quality Assurance in Education, Vol. 6 No. 4, pp. 197-204, 1998.
[2] Cardone, C., Lado, N., Rivera, P.: "Medición y efectos de la calidad docente: un modelo empírico aplicado a los Master's en administración de empresas y en análisis financiero", II Congreso Internacional, Ibero-American Academy of Management, México D.F., 2001.
[3] Elliot, K.M., Healy, M.A.: "Key factors influencing student satisfaction related to recruitment and retention", Journal of Marketing for Higher Education, Vol. 10 No. 4, pp. 1-11, 2001.
[4] Harvey, L.: "Student satisfaction", The New Review of Academic Librarianship, Vol. 1, pp. 161-73, 1995.
[5] Hill, F.M.: "Managing service quality in higher education: the role of student as primary consumer", Quality Assurance in Education, Vol. 3 No. 1, pp. 10-21, 1995.
[6] IWA 2:2007(E) Quality management systems — Guidelines for the application of ISO 9001:2000 in education.
[7] Raposo, M., Alves, H.: "Marketing higher education: students' service expectations", II Jornadas Internacionales de Marketing Pu´blico y No Lucrativo, 3-4 April 2003, Zaragoza.
[8] SRPS ISO 9000:2007 Системи менаџмента квалитетом – Основе и речник.