Measuring Quality of Services at HEI: Case of Private University in BiH

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Abstract: *The main purpose of this study is to investigate quality level of higher education institution's (HEI) services through students' perceptions, and to conduct cross years' comparative analysis. Main instrument for this study is a survey with several dimensions dealing with different aspects of higher education: quality in general, quality of academic staff, quality of administrative staff, quality of campus, quality of study programs, quality of services, personal development support, education facilities and cafeteria. Software used in the study is Microsoft Excel. In total, 440 responses were collected which represents almost 50% of population. Cross years comparative analysis indicated tremendous increase in all indicators after institution has implemented HEA standards and went through successful accreditation process. Recommendations for corrective/preventive measures will be given wherever necessary. Results of the analysis show that students's rating of university services on the level of university have mean of 5,1 which indicates that students are slightly satisfied with the services of university overall.*

Keywords: *HEI, university, quality, comparative analysis*

1 Introduction

Research on students' satisfaction with the service quality at higher education institutions in Bosnia and Herzegovina (BiH) was not famous topic among researchers. However, there are few studies dealing exactly with this issue. Mekić & Goksu (2014) investigated how ISO 9001:2008 and standards for accreditation contribute to overall quality of private higher education institutions in the country. Rastoder, Nurović, Smajić, & Mekić (2015) provided insights into perceptions of students towards quality of services at private higher education institution in BiH. Considering very few studies dealing with this issue in BiH, there is a need to provide more empirical evidence and more scientific research on quality management in higher education institutions of Bosnia and Herzegovina. Accordingly, this study is important since it serves this mission of filling gap in literature. On the other hand, considering great criticism in academic community on account of quality standards in higher education, this type of studies contributes to practitioners engaged in quality management processes in the country, because they represent strong support to quality standards as best way to satisfy customers' needs and demands.

Mainly, for purpose of statistical analysis, descriptive statistics will be used. Quality indicators will be compared on the timeline basis, and significant conclusions will be provided, as well as recommendations for improvement.

The contribution of this work is threefold. It provides theoretical contribution since it satisfies gap in the literature. This study will enable practitioners having more confidence in quality standards application in higher education, and it will provide practical recommendations for improvement to higher education institution which is in case. Finally, as higher education directly affects society, by improving theory and practice of higher education, social development will come along.

2 Literature Review

Variety of sources including books, journal articles, conference proceedings, reports, official web pages have been used while preparing this study.

Many different definitions of quality are best evidence that it really is a slippery concept as Naomi Pfeffer and Anna Coote (1991) characterized it. Infact, they even provided several reasons to prove this statement. First one is fact that quality serves different purposes and its meaning changes according to interests that are driving it. Second reason provided by Pfeffer and Coote (1991) is fact that people perceive and experience quality in different ways, and they have different needs and expectations towards it. Third reason is related to outcome of the process of quality assurance which can have infinite number of variables depending on the context.

Accordingly, when it comes to definition of quality, authors concluded that it refers to something we all unquestioningly favor (Pfeffer & Coote, 1991).

Sallis (2005) mentioned that word quality comes from the Latin quails meaning what kind of. While explaining quality, he stated that it is an ideal with which there can be no compromise. Quality things are perfect, valuable, with no expense spared and convey prestige to their owners. Author also stated that quality is synonymous with high quality or top quality (Sallis, 2005). Definitions of quality from various perspectives have been provided by Koslowski (2006). His definitions were reviewed and summarized into one comprehensive definition by Mekić & Goksu (2014) who concluded that quality in HEI is increase in learning as one of important objectives of HEI based on satisfying costumers' requirements, realized as consequence of academic and administrative staff's expertise which results in high ranking levels of HEI, gaining reputation and becoming perceived as valuable institution.

The University which is subject of case study in this article is located in Bosnia and Herzegovina. With aim to provide highest possible opportunities for its students, institution from the very beginning showed its loyalty to following world standards, and it implemented ISO 9001:2008 and started with implementation of standards for accreditation required by HEA. In year 2014, it went through accreditation process successfully. Students involvement in decision making processes and all other processes is high in this higher education institution. There are nine indicators in hands of students to follow:
1. Quality in general
2. Quality of Academic Staff
3. Quality of Administrative Staff
4. Quality of campus
5. Quality of Services
6. Study Programs
7. Personal Development
8. Education facilities
9. Cafeteria

This means that students are distributing a survey, collecting results, coding them, analyzing them, preparing report and presenting report to Senate with recommendations.

It is important to have in mind that this higher education institution carefully implements both ISO 9001 as well as European Standards and Guidelines (which are implemented through adjusted version "Criteria for Institutional Accreditation published by Agency for Development of Higher Education and Quality Assurance (HEA). It is important to have in mind that institution in case had been accredited in 2014, and that all indicators of students' satisfaction will be compared before and after this point. However, speaking of two mentioned standards, it is important to say that they are fully compatible standards. The best, and very fresh evidence of

this statement is available in comparative analysis conducted by team of authors in 2017. In fact, Bajramović, Mekić, & Muhamedbegović (2017) concluded that implementation of these two standards is realistic and recommended. In addition, they commented that appropriate implementation of both standards can be good way to achieve excellence in higher education.

3 Methodology

The survey was the main instrument of data collection and it has been divided into ten major sections. The first section contains questions about personal profiles of the respondents including gender, department of studying, fees, current level of study, country from were a student is coming. The second section contains questions about quality in general and the third section is based on questions about quality of academic staff. The fourth section contains questions about quality of administrative staff, while questions in fifth section are based on campus of university. In sixth section, questions are regarded to services at university and in seventh section they are about study programs that are offered at university. The eight section contains question about personal development and the ninth section is based on questions about education facilities. The tenth section contains questions regarding to cafeteria at university.

Survey has been distributed to students of all three cycles of study and all departmets of higher education institution. In total 440 responses were collected which is enough to generalize data in the level of higher education institution.

More accurately said, the instrument to collect data has been based on nine variables, and all of them are mentioned as important aspects of quality in higher education in ESG (2005) standards as well as HEA standards.

The measurement instrument used is a seven-point Likert scales is representing a range of attitudes from 1 – strongly disagree to 7 – strongly agree used to measure service quality, representing a range of attitudes from strongly disagree (1) to strongly agree (7) to measure students' satisfaction. The meaning of following numbers is as follows:

1 – Strongly Disagree;
2 – Disagree;
3 – Slightly Disagree;
4 – Neither Agree nor Disagree;
5 – Slightly Agree;
6 – Agree;
7 – Strongly Agree

4. Results

4.1 Demographics

In this part of survey, respondents were asked about their faculty, department, current level of study, year of study, highest qualification planned for future, yearly fees for education in BAM, high school they graduated from, gender, age group, where they were from, circumstances in financing their education, and whether they have scholarship. The survey was administered to 227 males and 212 females. When it comes to Faculty, 157 surveys were collected from Faculty of Economics, 212 surveys from Faculty of Engineering, 71 surveys from Faculty of Education. Respondents included those with Bachelor degree, Master degree, PhD, out of which most had a Bachelor degree.

Table 1 – Number of respondents from Faculties

Faculty	# of respondents
Faculty of Economics	157
Faculty of Engineering	212
Faculty of Education	71
Total number	440

4.2 Quality of services on the level of University

In this section responses of students from all faculties and results were combined to evaluate the satisfaction with services on the level of University.

Table 2 – Quality in General

Variables and Questions	Mean	Std. Deviation
Quality in General (QG)	*5,01*	*1,47*
How do you rate the quality of the institution's services in general?	4,98	1,34
How do you describe your feelings towards the institution's services in general?	4,88	1,42
How likely are you to recommend the institution to others?	5,20	1,62

With this variable students' satisfaction with quality in general was evaluated. The mean value of this variable is 5,01 which means that students slightly agree with offered statements, and they are slightly satisfied with general quality of International Burh University. The lowest mean value is 4,88 and it is related to question "How do you describe your feelings towards the institution's services in general?" but still it is within boundaries of „slightly agree". The highest

mean value is 5,20 which relates to the question "How likely are you to recommend the institution to others?". This tells us that students agree the most with the statement that they would recommend International Burch University.

Table 3 – Quality of Academic Staff

Variables and Questions	Mean	Std. Deviation
Quality of Academic Staff (QAS)	*5,22*	*1,46*
Academic staff have the knowledge to answer my questions relating to the course?	5,25	1,47
Academic staff deal with me in a caring and courteous manner?	5,22	1,50
Academic staff are never too busy to respond to my request for assistance?	5,13	1,57
When I have a problem, academic staff show a sincere interest in solving it?	5,22	1,47
Academic staff show positive attitude towards students?	5,41	1,42
Academic staff communicate well in the classroom?	5,29	1,40
Academic staff allocate sufficient and convenient time for consultations?	5,23	1,31
Academic staff provide feedback about my progress?	4,89	1,53
Academic staff are highly educated and experienced in their respective field?	5,31	1,45

The purpose of this variable is to evaluate students' satisfaction with the academic staff at International Burch University. The mean value of this variable is 5,22 which indicates that students are slightly satisfied with the academic in this institution. The lowest mean value is 4,89 and it is related to the question "Academic staff provide feedback about my progress?" but still it belongs to the region of slight satisfaction. The highest mean value, which is 5,41, is related to the question "Academic staff show positive attitude towards students?" which tells us that students are satisfied the most with academic staff attitude towards them.

Table 4 – Quality of Administrative Staff

Variables and Questions	Mean	Std. Deviation
Quality of Administrative Staff (QAS)	*5,16*	*1,69*
When I have problem, administrative staff show a sincere interest in solving it?	5,00	1,58
Administrative staff provide caring and individual attention?	5,00	1,50
Administrative staff are never too busy to respond to a request for assistance?	4,94	1,51
Administrative offices keep accurate and retrievable records?	5,06	1,47

When the staff promise to do something by a certain time, they do so?	5,05	1,57
The opening hours of administrative offices are personally convenient for me?	5,21	2,87
Administrative staff show positive work attitude towards the students?	5,31	1,43
Administrative staff communicate well with students?	5,37	1,46
Administrative staff have good knowledge pf the system/procedures?	5,33	1,45
Students are treated equally and with respect by the staff?	5,18	1,61
The staff respect my confidentiality when I disclosed information to them?	5,25	1,55

This variable represents the students' satisfaction with the administrative staff at International Burch University. The mean value of this variable is 5,16 which indicates that students slightly agree with given statements and they are slightly satisfied with administrative staff in this institution. The lowest mean value relates to the question "Administrative staff are never too busy to respond to a request for assistance?" and it is 4,94, however it is in positive interval of the scale indicating that students are satisfied with this aspect. The highest mean value is 5,37 and it relates to the question "Administrative staff communicate well with students?" which means that students are most satisfied with how administrative staff communicate with them.

Table 5 – Quality of campus

Variables and Questions	Mean	Std. Deviation
Campus (C)	*4,53*	*2,06*
The institution has a professional appearance/image?	5,14	1,59
The institution has an ideal location with excellent campus layout and appearance?	4,34	1,73
The university has an easily accessible location?	4,41	1,86
The parking services at the university are adequate?	3,51	2,01
The university campus has a safe environment?	5,25	5,25

With this variable students' satisfaction with professional appearance/image, location and environment of university campus was evaluated. The mean value of this variable is 4,53 which means that students slightly agree with given statements and they are slightly satisfied. The lowest mean value is 3,51 and relates to the question "The parking services at the university are adequate?", which tells that students are slightly dissatisfied with parking services which university offers. The highest mean value is 5,25 and relates to the question "The university campus has a safe environment?" which means that students are satisfied with the safety of the environment of university campus the most.

Table 6 – Quality of Services

Variables and Questions	Mean	Std. Deviation
Services	*5,07*	*1,82*
Inquires/complaints are dealt with efficiently and promptly?	4,80	1,53
I feel secure and confident in my dealings with this institution?	5,24	1,45
The institution provides services within reasonable/expected time frame?	5,19	1,40
Students are given fair amount of freedom?	5,40	3,25
The institution operates excellent counseling services?	5,14	1,40
Health services are adequate?	4,65	1,73
Information services via web-site is adequate?	5,18	1,54
The institution values feedback from students to improve service performance?	5,07	1,55
The university provides services for students with special needs?	4,94	1,67

The purpose of this variable is to evaluate students' satisfaction about services offered from university. The mean value for this variable is 5,07 which indicates that students slightly agree with given statements and they are slightly satisfied. The lowest average, which is 4,65 was at question "Health services are adequate?" but still it is within boundaries of slightly agree, which means students are slightly satisfied with this aspect. The highest mean value is 5,40 and relates to the question "Students are given fair amount of freedom?". This means that students are most satisfied with amount of freedom they have.

Table 7 – Study Programs

Variables and Questions	Mean	Std. Deviation
Study Programs	*4,95*	*1,54*
The institution runs excellent quality programs?	5,03	1,52
The institution offers a wide range of programs with various specialization?	4,93	1,53
The institution offers programs with flexible syllabus and structure?	4,87	1,52
The institution offers highly reputable programs?	4,97	1,54
The institution graduates are easily employable?	4,93	1,59

This variable represents the students' satisfaction with quality of study programs that university offers to them. The mean value of this variable is 4,95 which belong to the region of slightly agree with given statements. The lowest mean value is 4,87 and relates to the programs syllabus and structure that university offers, this means that students are slightly satisfied with them. The

highest mean value is 5,03 and relates to the question "The institution runs excellent quality programs?" which tells us that students are most satisfied with programs that the university offer.

Table 8 – Personal Development

Variables and Questions	Mean	Std. Deviation
Personal Development	*4,69*	*1,74*
Recreation and sport facilities at the university are adequate?	4,12	1,85
Extracurricular activities (seminars, workshops etc.) at the university are adequate?	5,01	1,65
Services and facilities of art at the university are adequate (music, painting, photography etc.)	4,40	1,68
The university supports students' personal development projects?	5,02	1,63
International cooperation programs at the university (student exchange, study visits etc.) are adequate?	4,89	1,69

The purpose of this variable is to evaluate students' satisfaction with opportunities of personal development. With mean value of 4,69 it is possible to conclude that students are slightly satisfied about opportunities of personal development. The lowest mean value (4,12) goes to the first question and it is about recreation and sport facilities at the university. The highest mean value (5,02) goes to the question four and it is about supporting students' personal development projects by faculty.

Table 9 – Education facilities

Variables and Questions	Mean	Std. Deviation
Education Facilities	*5,27*	*1,50*
Academic facilities are adequate for quality education?	5,19	1,45
Class sizes are adequate for quality education?	5,38	1,43
The library services at the university are adequate?	4,96	1,60
The institution has up to date equipment?	5,28	1,47
The labs at the university are adequate for quality education?	5,43	1,48
The university provides up-to-date information technology for students?	5,39	1,51

With this variable students' satisfaction with education facilities at International Burch University was evaluated. The mean value of this variable is 5,27 which indicates that students are satisfied with education facilities. The lowest mean value is 4,96 and relates to the question "The library services at the university are adequate?", which means that students are slightly satisfied with library services. The highest mean value is 5,43 and relates to the question "The

labs at the university are adequate for quality education?“ means that students are most satisfied with labs at the university.

Table 10 - Cafeteria

Variables and Questions	Mean	Std. Deviation
Cafeteria	*4,30*	*1,93*
The university cafeteria provides high quality food and beverages?	3,85	1,89
Prices at the university cafeteria are reasonable?	3,80	1,91
The food variety is adequate?	3,78	1,87
The university cafeteria is clean?	4,91	1,73
Cafeteria staff provide good quality service to students?	5,14	1,77

This variable represents students' satisfaction about cafeteria at International Burch university. With mean 4,30 it indicates that students are neutral regarding given statements. The lowest mean value (3,78) relates to adequate food variety while the highest mean value (5,14) relates to the quality of service that is provided by cafeteria staff to students which indicates that students are slightly satisfied with the service.

Table 11 shows overall results indicating that "Education Facilities“ is the highest rated variable with mean value of 5,26, and that variable "Cafeteria“ is the lowest rated variable with mean value of 4,29. The overall mean value of 4,97 indicates that students are slightly satisfied with university services.

Table 11 – Overall Results

| Variables	Mean	Std. Deviation
Quality in general	4,94	1,46
Quality of academic staff	5,13	1,47
Quality of administrative staff	5,10	1,72
Campus (C)	4,51	2,09
Services	5,05	1,85
Study Programs	4,94	1,55
Personal Development	4,69	1,74
Education Facilities	5,26	1,51
Cafeteria	4,29	1,94
Overall Result	4,97	1,72

Figure 1 - Overall Results
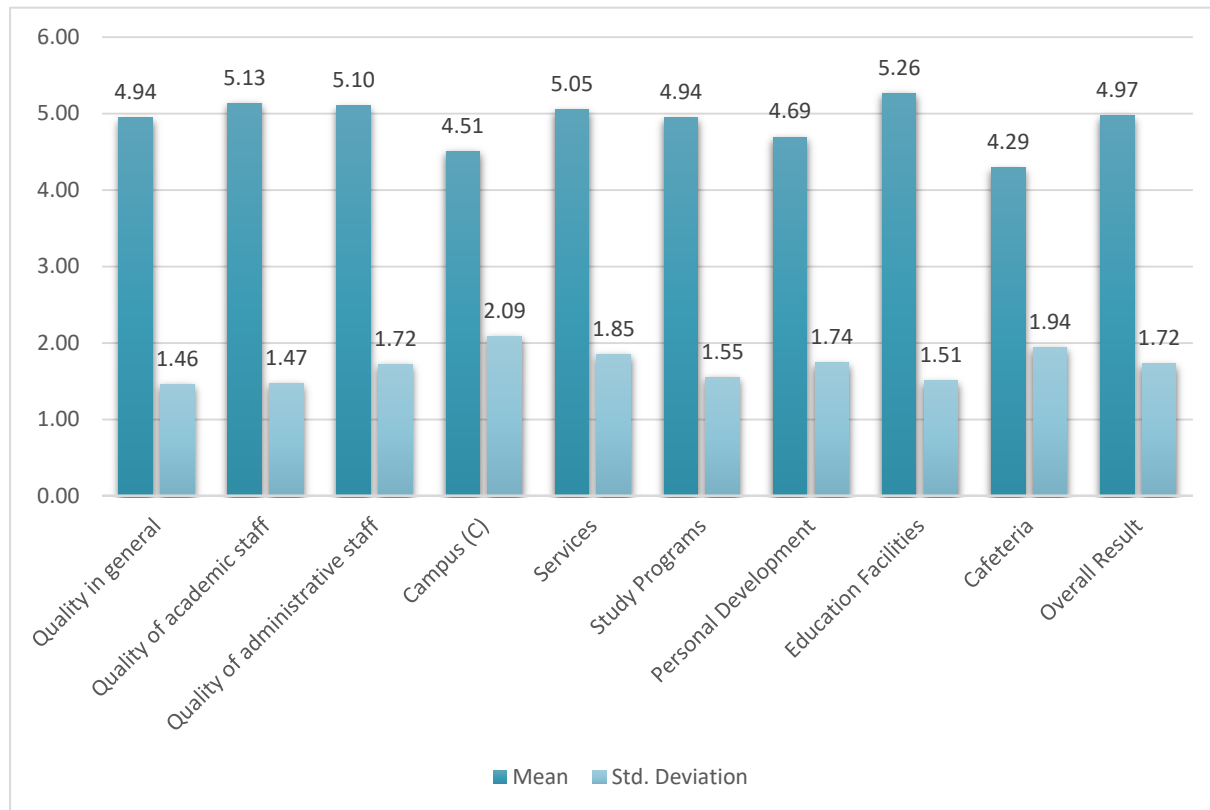
4.3   *Quality of Institution over Years*

Figure below indicated that quality of academic staff significantly decreased for the period of 2012 to 2014. If we look at mean grade in academic year 2011/2012 (5,46) we can notice that students negatively changed their opinion about academic staff in following two academic years for value of 0,74. However average grade was increased in academic year 2015/2016 and it is 5,13. Trend line visible in figure below indicates increase in students' satisfaction with academic staff after 2012/13.

Table 12 - Quality of academic staff

Indicator of Quality	2011-2012	2012-2013	2013-2014	2015-2016	Scale
Quality of academic staff	5,46	4,85	4,72	5,13	1 to 7

Figure 2 – Quality of Academic Staff
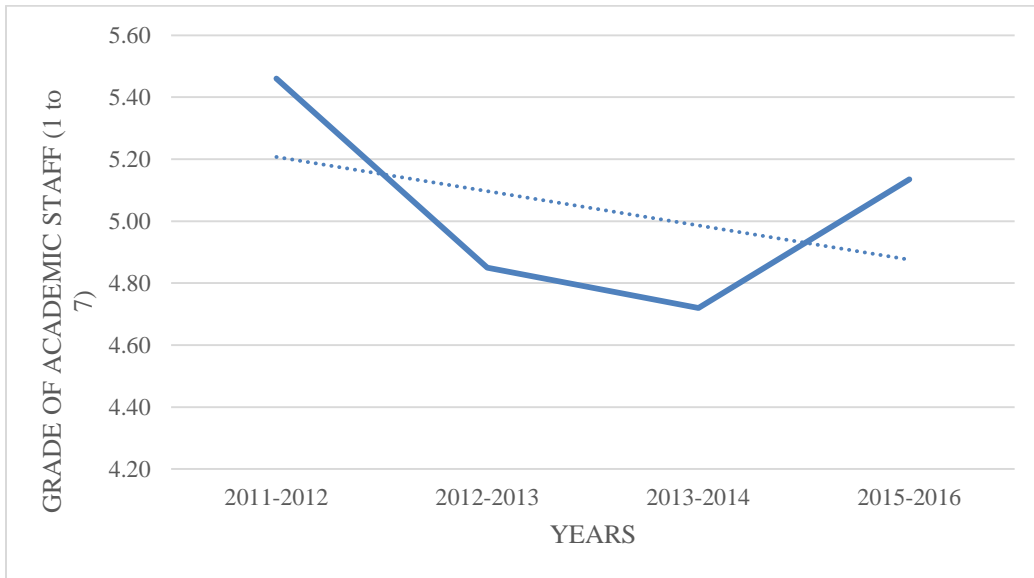
Following figure indicates slightly decrease in quality of administrative staff in the academic year 2012/2013 for value of 0,37 compared to the academic year 2011/2012. From the period of 2013 to 2016 average grade was increased and in 2016 it was 5,10 which indicates great improvement in this indicator of quality. Also, trend line presented in figure below shows increase in average grade for period of 2011 to 2016.

Table 13 - Quality of administrative staff

Indicator of Quality	2011-2012	2012-2013	2013-2014	2015-2016	Scale
Quality of administrative staff	5,00	4,63	4,75	5,10	1 to 7

Figure 3 – Quality of Administrative Staff
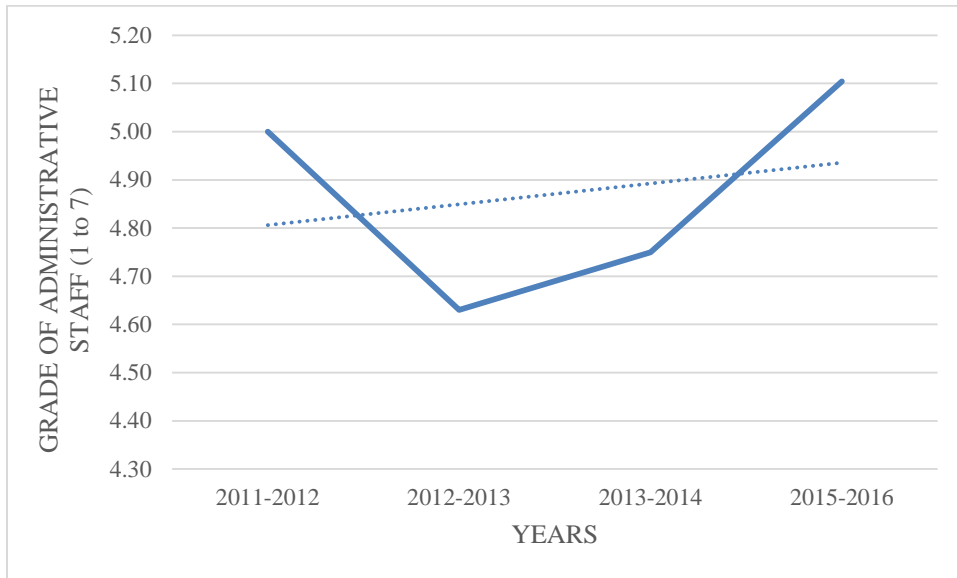
Table and figure below presents satisfaction of students with campus. Results that are founded shows us that average grade was decreased from 2011 and in last two academic years was 4,51. Trend line however indicated increase after 2012/13 on.

Table 14 - Quality of Campus

Indicator of Quality	2011-2012	2012-2013	2013-2014	2015-2016	Scale
Campus (C)	5,02	4,42	4,51	4,51	1 to 7

Figure 4 – Quality Campus
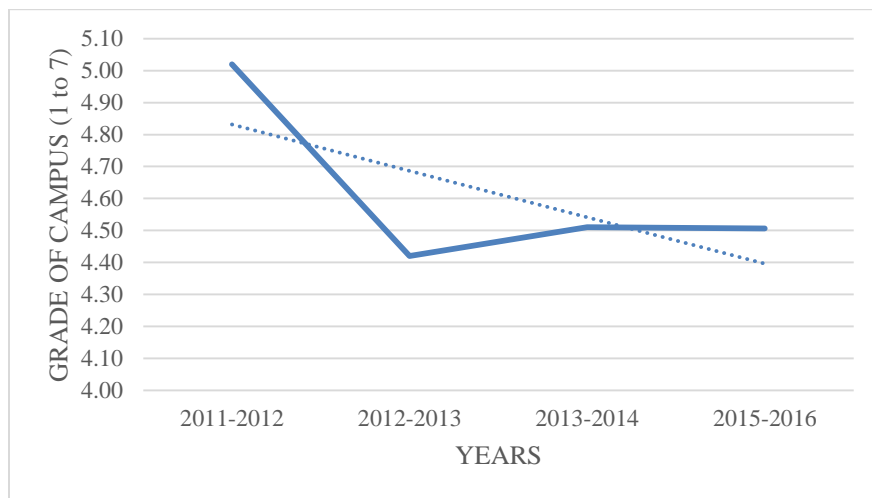
Once again trend line on graph # shows slightly increase in average grade of services for the academic years from 2011 to 2016. Average grade was increased for the values of 0,08 which indicates that University is improving services.

Table 15 - Quality of Services

Indicator of Quality	2011-2012	2012-2013	2013-2014	2015-2016	Scale
Services	4,97	4,39	4,59	5,05	1 to 7

Figure 5 – Quality of Services
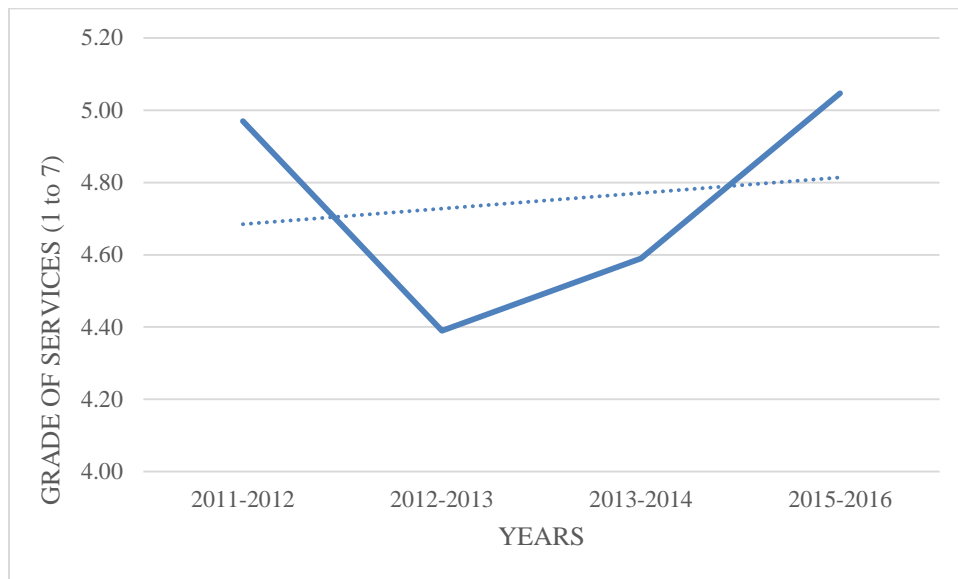
Figure and table below shows significant decrease in the way how student perceive study programs provided by University, which can be visible in decrease of average for period of 2011 to 2014 in value of 0,73. Also we can see that University took certain actions and improved study programs since results in academic year 2015/2016 indicated significant increase growth up to value of 4,94.

Table 16 - Quality of Study Programs

Indicator of Quality	2011-2012	2012-2013	2013-2014	2015-2016	Scale
Study Programs	5,02	4,39	4,29	4,94	1 to 7

Figure 6 – Quality of Study Programs
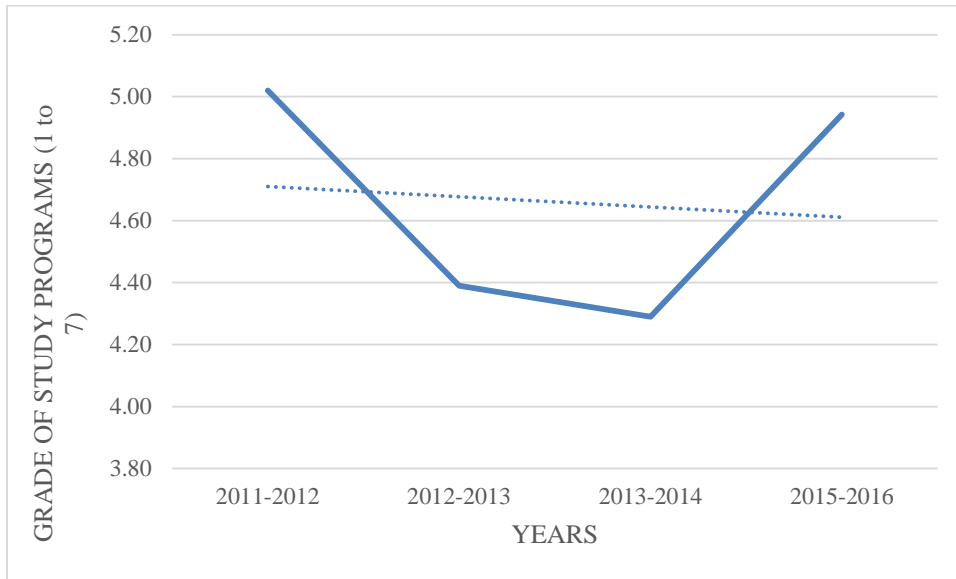
Following results represented in the table and figure below makes it clear that in four academic years that are investigated students were not satisfied with possibilities of personal development initially, but however, academic year 2015/2016 showed sustainable growth over the coming period. Trend line indicated growth in satisfaction of students with personal development possibilities.

Table 17 - Quality of Personal Development

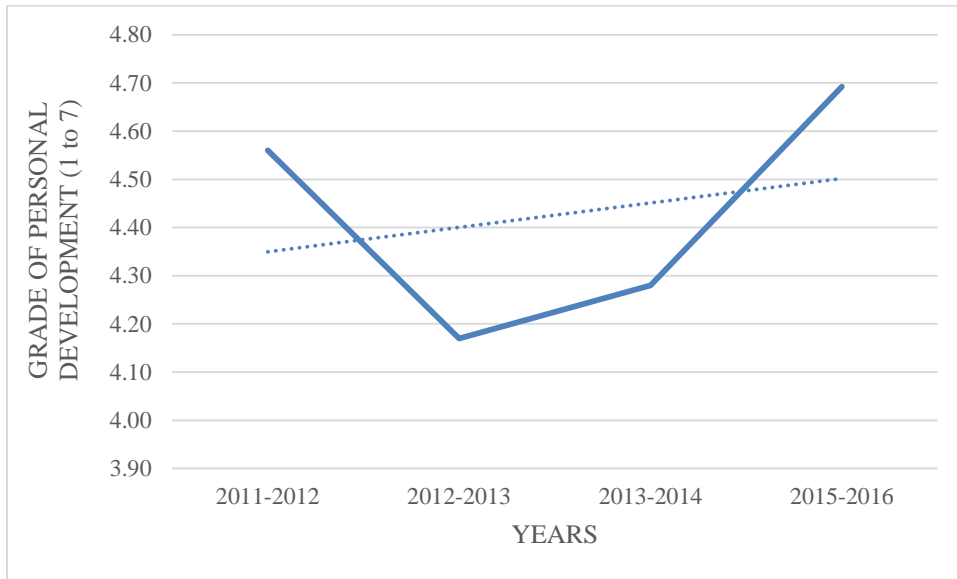| Indicator of Quality	2011-2012	2012-2013	2013-2014	2015-2016	Scale
Personal Development	4,56	4,17	4,28	4,69	1 to 7

Figure 7 – Quality of Personal Development

Figure below indicates student satisfaction with education facilities at University. Results shows small decrease in average grade in academic year 2012/2013. But, however after this point, sustainable increase in student satisfaction with education facilities has been indicated.

Table 18 - Quality of Education Facilities

Indicator of Quality	2011-2012	2012-2013	2013-2014	2015-2016	Scale
Education Facilities	5,22	4,61	4,82	5,26	1 to 7

**Figure 8 – Quality of Education Facilities**
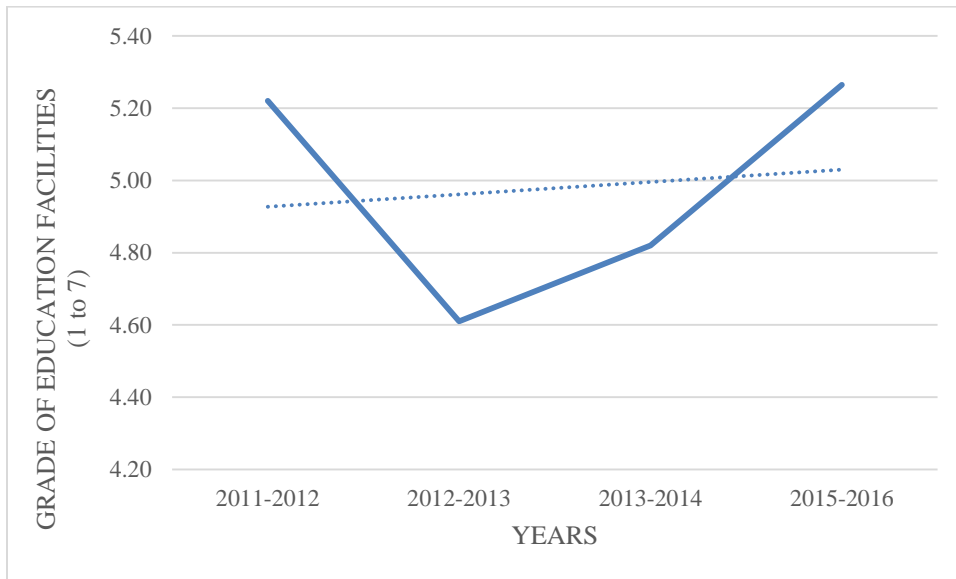
Cafeteria is last variable studied in our research and results from this part are presented in the figure and table below. According to research cafeteria is marked with lowest average grades in four academic years, and this aspect should be on agenda for improvement.

Table 19 - Quality of Education Facilities

Indicator of Quality	2011-2012	2012-2013	2013-2014	2015-2016	Scale
Cafeteria	4,28	3,85	4,21	4,29	1 to 7

Figure 9 – Quality of Cafeteria
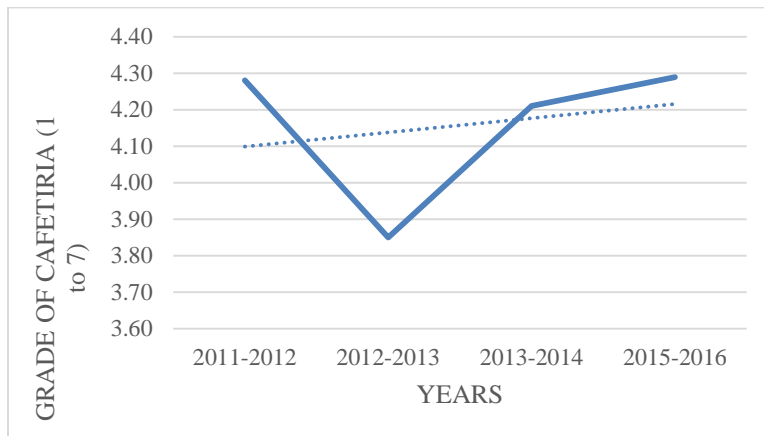
5   Recommendations

Out of all categories, Cafeteria had a lowest satisfaction level with mean of 4,29 which means that students were neutral regarding the quality of cafeteria. Within the category, students were the least satisfied with prices of the food and the quality of food and beverages, so working on these issues would be a logical recommendation.

6   Conclusion

Results of the analysis show that students's rating of university services on the level of university have mean of 5,1 which indicates that students are slightly satisfied with the services of university overall.

When it comes to categories of services within the university, Cafeteria is the category with the lowest mean – 4,29. The questions with lowest means were also in that category, and those are questions pertaining to prices (3,80) and quality of food and beverages (3,85). If we consider fact that in all indicators except quality of cafeteria, trend line increased after the accreditation process which occurred in 2014, the one may conclude that successful implementation of HEA criteria as well as implementing recommendations of the Committee for Accreditation resulted in higher satisfaction of students with different aspects of University's quality. The case study sent strong message that dedication of higher education institution to quality standards (in this case ISO 9001 and ESG adopted through HEA standards) will be recognized by students, and make positive impact on their perceptions of institution's quality.

Accordingly, this exploratory study could be good basis for explanatory study that will investigate relationship between implementation of HEA criteria and students satisfaction, and this is recommendation for future research.

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