



## Studying the Satisfaction Level of Students from Academic Branches

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Available online at: [www.isca.in](http://www.isca.in), [www.isca.me](http://www.isca.me)

Received 11<sup>th</sup> August 2013, revised 3<sup>rd</sup> September 2013, accepted 25<sup>th</sup> November 2013

### Abstract

*The present research examines rate of students' satisfaction (medicine, dentistry, pharmaceutical) at different medical branches of Islamic Azad University. The main problem in this research is that to what extent the provided academic and educational services by the departments can meet the students' needs and expectations. Sampling process happened in Tehran and among medicine, dentistry, and pharmaceutical departments with total size of 1400 subjects. Using the Krejcie and Morgan table, 300 were selected by stratified random sampling method. To measure rate of satisfaction, a researcher-made questionnaire based on the international survey of students' needs assessment developed by Noel-Levitz institute having the global standards was adapted. The obtained results indicate that the academic and educational services presented by different departments do not sufficiently satisfy the students' needs and expectations and they are not pleased with the current conditions.*

**Keywords:** Students, satisfaction, services, financial support.

### Introduction

Generally, every service organization is in charge of considers its customers' opinions, here the students, as a feedback on its performance and through which weak points get clear and plans are performed. By this, the organization will step in the process of optimization. All educational institutions all over the world have to ask themselves whether we can satisfy, and make happy those have been coming to our center or not<sup>1</sup>. Thus, getting known about the students' attitudes and ideas toward their university help the academics to assess the university performance from the students' viewpoint and follow the customer-focused principle. As Eagle and Brennan<sup>2</sup> showed, how much students are satisfied with their university, their learning and teaching get more efficiency and this, in return leads to some favorite changes.

Therefore, in the current research, the investigator seeks to evaluate the students' satisfaction from different dimension and via Minnesota standard questionnaire. Consequently, the subject of the available paper will be as "examination of rate of students' satisfaction at different medical branches (medicine, dentistry, and pharmaceutical) Islamic Azad University in terms of SSE questionnaire"<sup>3</sup>. This study is significant from two aspects: i. fundamental or theoretical dimension, to make a hypothesis based on the relationship between the independent variables (the students; satisfaction), the dependent variable (educational progress), and ii. practical dimension, offering some functional solutions for improvement of the students' satisfaction given to the officials<sup>4-6</sup>.

The students' opinions on quality and structure of the departments as well as student services, students; dissatisfaction

and negative remarks will have undesired consequences. As a result, the department should supply better structure and services and make a few changes in management or tolerate the students leave the department and discourage new comers to this department. Therefore, the present research results can greatly contribute managers and decision makers of higher education system in order to have a more comprehensive understanding of the students' perceptions about an institution or a department<sup>7</sup>.

The main purpose of the current research is to examine Islamic Azad university students at medical branches and comparison of their performance<sup>8,9</sup>. The minor goals, are evaluation of the students' satisfaction from student educational help, evaluation of the students' satisfaction from the department atmosphere, evaluation of the students' satisfaction from campuses life, examination of the students' satisfaction from support services quality, examination of the students' significance of students in the academic environment, evaluation of the students' satisfaction from educational effectiveness, evaluation of the students; satisfaction from financial support, examination of the students' satisfaction from registration effectiveness, examination of the students' satisfaction from department health and security, evaluation of the students' satisfaction from top services, examination of the students' satisfaction from student-focused programs, and examination of the students' satisfaction from accountability to different populations<sup>9-11</sup>.

**Theoretical framework:** The theoretical foundation of the current research relies on "satisfaction survey of Noel Levitz"<sup>12</sup>. according to this, students' satisfaction is assessed in different aspects of educational help services, department atmosphere, campus life, quality of support services, significance of

students, educational effectiveness, financial support, registration effectiveness, department safety and health, student –centered programs, and accountability to different populations. Zamanzad et al.<sup>13</sup> investigated the satisfaction and trainee and intern medical students from educational quality of the clinical period medical sciences university of Shahre-Kord. The obtained results showed that in major wards, insufficient attention to teaching rounds, outpatient clinics and theory classes were subjects the students expressed their dissatisfaction. On the contrary, morning reports were highly satisfiable and due to the high displeasure of women, poisoning and urology wards, as well as dissatisfaction from CPR trainings, intubation and management of delivery that are among clinical skills, it is recommended that the educational official of the university reassess the content and type of their educational programs in these areas.

Darvish Motevali et al.<sup>14</sup> in their investigation examined students' satisfaction through fuzzy approach (case study: Islamic Azad university at Firouz kough branch). The results in both fuzzy and classic methods showed that fee and tuition, and satisfaction from the university services affect on each other, the greatest satisfaction from fees and tuitions among nine groups were for provided services in student housing. This means, considering the paid fees and tuitions, students were more satisfied with services were offered in housing sector of the university. After, teaching methods, transportation services to the religious and cultural destinations, laboratory and research facilities, internet, library services, supports and recreation services, and finally food, and cafeteria services were less satisfiable. About food and cafeteria services, it seems the rate of satisfaction is slightly less than the average rate. In other words, food and cafeteria services absorbed lesser students' satisfaction compared to the paid fees and tuitions at the university.

## Methodology

The present research is a type of descriptive-survey one since investigators do not interfere in the process of variables and consider them as they are. The research population consists of students in three last semesters of PhD, masters and bachelor at Islamic Azad university medicine, dentistry and pharmaceutical branches with a total size of 1400 subjects. Through Morgan table, a 300 sample size, 100 students from each branch, was selected. The random sampling method was used.

For collecting the data, a researcher –made questionnaire based on international survey of students' need assessment is developed by Noel Levitz institute was prepared. The international survey by Noel-Levitz has been administered in North America, Latin America and Canada. The original questionnaire includes 73 main items, besides some other items, totally 95 items.

In this research, after removing some items, a questionnaire with 61 items was prepared. Of this, 58 items contain 11 components and measure two aspects of significance and

satisfaction as well as three items related to satisfying students in different population were distributed. In the current research the status of index is determined 1 to 2.45 low level ( inappropriate), 2.451 to 2.55 average (relatively appropriate), and 2.551 to 4 high rate ( appropriate).

Considering the questionnaire validity, first the researcher-made questionnaire was evaluated by a number of professors and experts and some modifications occurred. That is, a number of items were removed and some of them were adjusted to social conditions of Iran. Researchers reported that the Chronbach's alpha in the original survey was equal to 0.97 for satisfaction and 0.98 for significance dimension. However, after three weeks a re-test was administered and the coefficient of reliability was 0.84 for satisfaction dimension and 0.85 for significance aspect. In the current research, therefore, the Chronbah's alpha for 58 items achieved as 0.74 and for satisfaction items, it was equal to 0.855 for 61 items. The descriptive and inferential statistics were used for the data analysis.

## Results and Discussion

To what extent the provided educational services meet the students' needs and expectations?

**Table-1**  
**Single t-test for comparing educational services**

Rate of meeting the students' needs and expectations by educational services	Test value=3					
	T	df	Sig.	sd	Degree of confidence 0.95	
					minimum	maximum
	72.17	299	0.000	194.24	188.95	199.54

Since t value is 72.17 with degree of freedom 299 for both satisfaction and significance level in 0.05 is greater than critical value 1.96, thus, the H<sub>0</sub> is rejected and in 0.95 level of confidence it can be said that the mean of samples is smaller than mean of population. As a result, the students' needs and expectations were not satisfied by the provided educational services.

Q1: how much students are satisfied from provided educational help by the department?

**Table-1**  
**t-test for comparing educational help in the departments**

Rate of significance of educational help in departments	Test value=2.5					
	T	df	Sig.	sd	Degree of confidence 0.95	
					Minimum	maximum
	69.89	299	0.000	14.60	14.19	15.01

As t value is equal to 69.89 with degree of freedom 299 for both satisfaction and significance level in 0.05 is greater than critical

value 1.96, thus, the  $H_0$  is rejected and in 0.95 level of confidence it can be reasoned that the mean of samples is smaller than mean of population. As a result, according to the student's components of educational help have a great significance in the department.

**Table-2**  
**Single t-test for comparing educational help in the departments**

Rate of satisfaction from educational help in departments	Test value=2.5				
	t	df	Sig.	sd	Degree of confidence 0.95
	-49.92	299	0.000	9.90	minimum 9.51 maximum 10.29

Because  $t$  value is equal to 49.92 with degree of freedom 299 for both satisfaction and significance level in 0.05 is greater than critical value 1.96, thus, the  $H_0$  is rejected and in 0.95 level of confidence it can be concluded that the mean of samples is smaller than mean of population. As a result, according to the students, rate of satisfaction from components of the educational help in the departments is inappropriate.

Q2: to what extent the organizational atmosphere in the departments meet the students' needs and expectations?

**Table-3**  
**Single t-test for dominating atmosphere in the departments**

Rate of significance of ruling atmosphere in departments	Test value=2.5				
	t	df	Sig.	sd	Degree of confidence 0.95
	57.51	299	0.000	52.04	minimum 50.87 maximum 53.21

For the reason that  $t$  value is equal to 87.51 with degree of freedom 299 for both satisfaction and significance level in 0.05 is greater than critical value 1.96, thus, the  $H_0$  is rejected and in 0.95 level of confidence it can be concluded that the mean of samples is smaller than mean of population. As a result, according to the students, the dominating department atmosphere greatly matters.

**Table-4**  
**t-test for comparing the sample and the population from dominating atmosphere in the departments**

Rate of satisfaction from ruling atmosphere in departments	Test value=2.5				
	t	df	Sig.	sd	Degree of confidence 0.95
	-64.95	299	0.000	37.23	minimum 36.10 maximum 38.36

Since  $t$  value is equal to -64.95 with degree of freedom 299 for both satisfaction and significance level in 0.05 is greater than critical value 1.96, thus, the  $H_0$  is rejected and in 0.95 level of

confidence it can be concluded that the mean of samples is smaller than mean of population. Consequently, students were not satisfied with the department atmosphere .that is, the rate of satisfaction of inappropriate.

Q3: is campus life appropriate for the students?

**Table-5**  
**t-test for comparing rate of significance of campus life**

Rate of significance of campus life	Test value=2.5				
	t	df	Sig.	sd	Degree of confidence 0.95
	77.007	299	0.000	37.23	minimum 20.77 maximum 21.86

Given that  $t$  value is equal to 77.007 with degree of freedom 299 for both satisfaction and significance level in 0.05 is greater than critical value 1.96, thus, the  $H_0$  is rejected and in 0.95 level of confidence it can be concluded that the mean of samples is smaller than mean of population. Thus, students commented that campus life is very important for them.

**Table-6**  
**Single t-test for comparing rate of satisfaction from campus life**

Rate of satisfaction from campus life	Test value=2.5				
	T	df	Sig.	sd	Degree of confidence 0.95
	13.95	299	0.000	- 44.64	minimum 13.33 maximum 14.56

As  $t$  value is equal to -44.64 with degree of freedom 299 for both satisfaction and significance level in 0.05 is greater than critical value 1.96, thus, the  $H_0$  is rejected and in 0.95 level of confidence it can be concluded that the mean of samples is smaller than mean of population. Therefore, students were less satisfied from quality of campus life and it was inappropriate.

Q4: are support services in the departments suitable enough?

**Table-7**  
**t-test for comparing rate of significance of quality of support services**

Rate of significance of support services quality	Test value=2.5				
	T	df	Sig.	sd	Degree of confidence 0.95
	81.13	299	0.000	21.88	minimum 21.35 maximum 22.41

Because  $t$  value is equal to 81.13 with degree of freedom 299 for both satisfaction and significance level in 0.05 is greater than critical value 1.96, thus, the  $H_0$  is rejected and in 0.95 level of confidence it can be concluded that the mean of samples is smaller than mean of population. Therefore, students confirmed the significance of quality of support services.

**Table-8**

**t-test for comparing the rate of satisfaction from quality of support services**

Rate of satisfaction from support services quality	Test value=2.5					
	T	df	Sig.	sd	Degree of confidence 0.95	
	-13.77	299	0.000	16.56	minimum	maximum
					14.19	18.92

for the reason that  $t$  value is equal to -13.77 with degree of freedom 299 for both satisfaction and significance level in 0.05 is greater than critical value 1.96, thus, the  $H_0$  is rejected and in 0.95 level of confidence it can be concluded that the mean of samples is smaller than mean of population. Then, students were in a lesser amount satisfied from quality of support services and it was improper.

Q5: are the students paid sufficient attention to?

**Table-9**

**t-test for comparing the rate of significance of the students' importance**

Rate of student importance	Test value=2.5					
	t	df	Sig.	sd	Degree of confidence 0.95	
	64.07	299	0.000	14.43	minimum	maximum
					14.43	15.35

Since  $t$  value is equal to 64.07 with degree of freedom 299 for both satisfaction and significance level in 0.05 is greater than critical value 1.96, thus, the  $H_0$  is rejected and in 0.95 level of confidence it can be concluded that the mean of samples is smaller than mean of population. Accordingly, stated that student-centered programs are among the crucial issues in terms of internal performance of the university.

**Table-10**

**t-test for comparing the rate of satisfaction from the students' significance**

Rate of students' satisfaction from student importance	Test value=2.5					
	T	df	Sig.	sd	Degree of confidence 0.95	
	-43.89	299	0.000	10.17	minimum	maximum
					9.71	10.62

Because  $t$  value is equal to -43.89 with degree of freedom 299 for both satisfaction and significance level in 0.05 is greater than critical value 1.96, thus, the  $H_0$  is rejected and in 0.95 level of confidence it can be concluded that the mean of samples is smaller than mean of population. As a result, students were in a lesser amount satisfied from student-centered programs. In fact, the students considered the status of student-centered programs unsuitable.

Q6: to what extent the educational system is effective?

**Table-11**

**t-test for comparing the rate of significance of educational systems effectiveness**

Rate of significance of educational systems effectiveness	Test value=2.5					
	T	df	Sig.	sd	Degree of confidence 0.95	
	86.44	299	0.000	35.29	minimum	maximum
					34.48	36.09

as  $t$  value is equal to 92.56 with degree of freedom 299 for both satisfaction and significance level in 0.05 is greater than critical value 1.96, thus, the  $H_0$  is rejected and in 0.95 level of confidence it can be concluded that the mean of samples is smaller than mean of population. As a result, students were in a lesser amount satisfied from student-centered programs. In fact, the students believed that effectiveness of educational systems is highly significant.

**Table-12**

**t-test for comparing the the rate of satisfaction from educational systems**

Rate of satisfaction from educational systems effectiveness	Test value=2.5					
	T	df	Sig.	sd	Degree of confidence 0.95	
	-15.55	299	0.000	27.45	minimum	maximum
					24.54	30.36

Considering  $t$  value, -15.55 with degree of freedom 299 for both satisfaction and significance level in 0.05 is greater than critical value 1.96, thus, the  $H_0$  is rejected and in 0.95 level of confidence it can be concluded that the mean of samples is smaller than mean of population. as a result, students were in a lesser amount satisfied from student-centered programs. In fact, the students rate the effectiveness of educational systems inappropriate.

Q7: to what extent the financially support policies of the department satisfy the students' needs and expectation?

**Table-13**

**Single t-test for comparing the rate of significance of the financially support services**

Rate of financial support policies	Test value=2.5					
	T	df	Sig.	sd	Degree of confidence 0.95	
	69.50	299	0.000	17.94	minimum	maximum
					17.43	18.44

With regard to  $t$  value, 69.50 with degree of freedom 299 for both satisfaction and significance level in 0.05 is greater than critical value 1.96, thus, the  $H_0$  is rejected and in 0.95 level of confidence it can be concluded that the mean of samples is smaller than mean of population. As a result, students approved significance of financially support policies.

**Table-14**  
**t-test for comparing the rate of satisfaction from the financially support services**

Rate of financial support satisfaction	Test value=2.5					
	t	df	Sig.	sd	Degree of confidence 0.95	
	-13.61	299	0.000	13.62	minimum	maximum
					11.65	15.58

as  $t$  value is equal to -13.61 with degree of freedom 299 for both satisfaction and significance level in 0.05 is greater than critical value 1.96, thus, the  $H_0$  is rejected and in 0.95 level of confidence it can be concluded that the mean of samples is smaller than mean of population. As a result, students were in a lesser amount satisfied from student-centered programs. Consequently, the students are not satisfied with financial supports.

Q8: how well are admission policies?

**Table-15**  
**t-test for comparing the rate of significance of student admission policies**

Students' admission policies	Test value=2.5					
	T	df	Sig.	sd	Degree of confidence 0.95	
	71.91	299	0.000	14.80	minimum	maximum
					14.39	15.20

because  $t$  value is equal to -13.61 with degree of freedom 299 for both satisfaction and significance level in 0.05 is greater than critical value 1.96, thus, the  $H_0$  is rejected and in 0.95 level of confidence it can be concluded that the mean of samples is smaller than mean of population. As a result, students were in a lesser amount satisfied from student-centered programs. In fact, the students were confirmed significance of admission policies.

**Table-15**  
**t-test for comparing the rate of satisfaction from student admission policies**

Satisfaction from Students' admission policies	Test value=2.5					
	t	df	Sig.	sd	Degree of confidence 0.95	
	-53.73	299	0.000	10.31	minimum	maximum
					9.93	110.68

since  $t$  value is equal to -53.73 with degree of freedom 299 for both satisfaction and significance level in 0.05 is greater than critical value 1.96, thus, the  $H_0$  is rejected and in 0.95 level of confidence it can be concluded that the mean of samples is smaller than mean of population. As a result, students were in a lesser amount satisfied from student-centered programs. In fact, the students were not appropriately satisfied with the admission policies.

Q9: do the department programs and policies accord with different communities?

**Table-16**  
**Single t-test for comparing the rate of satisfaction from programs and policies**

Satisfaction from policies and programs suitable for different communities	Test value=2.5					
	t	df	Sig.	sd	Degree of confidence 0.95	
	-33.74	299	0.000	50.1	minimum	maximum
					4.72	5.20

since  $t$  value is equal to -33.74 with degree of freedom 299 for both satisfaction and significance level in 0.05 is greater than critical value 1.96, thus, the  $H_0$  is rejected and in 0.95 level of confidence it can be concluded that the mean of samples is smaller than mean of population. As a result, students were in a lesser amount satisfied from student-centered programs. In fact, the students were not appropriately satisfied with accountability to different communities.

Q10: to what extent the department environment is safe and secure?

**Table-17**  
**t-test for comparing the rate of significance of safety and security in departments**

Safety and security of departments	Test value=2.5					
	t	df	Sig.	sd	Degree of confidence 0.95	
	-60.26	299	0.000	11.27	minimum	maximum
					10.90	11.64

as  $t$  value is equal to -60.26 with degree of freedom 299 for both satisfaction and significance level in 0.05 is greater than critical value 1.96, thus, the  $H_0$  is rejected and in 0.95 level of confidence it can be concluded that the mean of samples is smaller than mean of population. as a result, students were in a lesser amount satisfied from student-centered programs . in fact, the students believed that safety and security conditions in departments highly matter.

**Table-18**  
**t-test for comparing the rate of satisfaction from safety and security in departments**

Rate of safety and security in departments	Test value=2.5					
	t	df	Sig.	sd	Degree of confidence 0.95	
	-39.89	299	0.000	7.21	minimum	maximum
					6.85	7.56

With regard to  $t$  value , -60.26 with degree of freedom 299 for both satisfaction and significance level in 0.05 is greater than critical value 1.96, thus, the  $H_0$  is rejected and in 0.95 level of confidence it can be concluded that the mean of samples is smaller than mean of population. As a result, students were in a lesser amount satisfied from student-centered programs. In fact, the students were less satisfied with safety and security conditions in departments.

Q11: are top services given to the students?

**Table-19**  
**t-test for comparing the rate of significance of student special services**

Providing special services to students	Test value=2.5					
	t	df	Sig.	sd	Degree of confidence 0.95	
	76.13	299	0.000	21.33	minimum	maximum
					2.78	21.88

as  $t$  value is equal to 76.13 with degree of freedom 299 for both satisfaction and significance level in 0.05 is greater than critical value 1.96, thus, the  $H_0$  is rejected and in 0.95 level of confidence it can be concluded that the mean of samples is smaller than mean of population. As a result, students were in a lesser amount satisfied from student-centered programs. In fact, the students thought that presenting special services by the departments highly matters.

**Table-20**  
**t-test for comparing the rate of satisfaction from student special services**

Rate of satisfaction from giving special services to students	Test value=2.5					
	t	df	Sig.	sd	Degree of confidence 0.95	
	-21.89	299	0.000	16.29	minimum	maximum
					14.83	17.76

Considering  $t$  value, -21.89 with degree of freedom 299 for both satisfaction and significance level in 0.05 is greater than critical value 1.96, thus, the  $H_0$  is rejected and in 0.95 level of confidence it can be concluded that the mean of samples is smaller than mean of population. As a result, students were in a lesser amount satisfied from student-centered programs. In fact, the students were less satisfied with providing special services by the departments.

Q12: does the department follow a student-centered procedure?

**Table-21**  
**t-test for comparing the rate of significance of student-centered procedures**

Being a student-centered department	Test value=2.5					
	t	df	Sig.	sd	Degree of confidence 0.95	
	81.06	299	0.000	17.89	minimum	maximum
					17.46	18.33

as  $t$  value is equal to 76.13 with degree of freedom 299 for both satisfaction and significance level in 0.05 is greater than critical value 1.96, thus, the  $H_0$  is rejected and in 0.95 level of confidence it can be concluded that the mean of samples is smaller than mean of population. As a result, students were in a lesser amount satisfied from student-centered programs. In fact,

the students thought that student-centered programs highly matter.

**Table-22**  
**single t-test for the rate of satisfaction from student-centered procedures**

Satisfaction from Being a student-centered department	Test value=2.5					
	t	df	Sig.	sd	Degree of confidence 0.95	
	-38.88	299	0.000	12.61	minimum	maximum
					11.79	13.24

Considering  $t$  value, -38.88 with degree of freedom 299 for both satisfaction and significance level in 0.05 is greater than critical value 1.96, thus, the  $H_0$  is rejected and in 0.95 level of confidence it can be concluded that the mean of samples is smaller than mean of population. As a result, students were in a lesser amount satisfied from student-centered programs. In fact, the students were less satisfied with student-centered programs of the departments. Q13: what component does have the greatest significance for the students?

To test this question, the Friedman's test was used.

**Table-23**  
**Results of Friedman's test in significance dimension**

No.	component	ranting	priority
1	Effectiveness of the educational help	3.07	ninth
2	Department atmosphere	10.96	first
3	Campus life	7.59	fourth
4	Support services of the department	7.94	third
5	Significance of the student	3.20	eighth
6	Educational effectiveness	9.91	second
7	Effectiveness of employment and financial support services	5.39	sixth
8	Effectiveness of admission	3.30	seventh
9	Safety and security	1.41	tenth
10	Top services	7.94	third
11	Student-cantered	5.49	fifth
Chi-square		df	sig
	2645.16	10	0.000

Q13. With what component the student are more satisfied?

The Friedman's test was adapted to answer this question.

**Table-24**  
**Results of Friedman's test in satisfaction dimension**

No.	component	rating	priority
1	Effectiveness of the educational help	4.33	tenth
2	Department atmosphere	11.89	first
3	Campus life	7.70	fifth
4	Support services of the department	8.34	fourth
5	Significance of the student	4.39	ninth
6	Educational effectiveness	10.89	second
7	Effectiveness of employment and financial support services	6.43	seventh
8	Effectiveness of admission	4.60	eighth
9	Safety and security	2.49	eleventh
10	Top services	8.87	third
11	Student-centered	6.65	sixth
12	Accountability to different communities	1.43	twelfth
Chi-square		df	sig
	2664.680	11	0.000

## Conclusion

Using SPSS software for the data analysis, and measurement of the students' satisfaction from the medical branches of Islamic Azad University showed that all components involved in the students' satisfaction (educational help services, department atmosphere, campus life, students' support services, students' significance, effectiveness of the educational system, financially support services, admission policies, safety and security, the department policies in accordance with different communities and student-centered procedures) were very significant from the students' viewpoints, however, these components were in inappropriate conditions and could not satisfy their needs and expectations. Therefore, it can be concluded that more attempts are required for improvement of the conditions as well as adapting some solutions in order to maximize the students' rate of satisfaction from the higher education system.

## References

- Sherry C., Bhat R., Beaver B. and Ling A., Students as customers: The expectations and perceptions of local and international students, In HERDSA Conference, (2004)
- Eagle L. and Brennan R., Are students customers? TQM and marketing perspectives, *Quality Assurance in Education*, **15**(1), 44–60 (2007)
- Chow H.P., Life satisfaction among university students in a Canadian prairie city: A multivariate analysis, *Social Indicators Research*, **70**(2), 139–150 (2005)
- Helm E.G., Sedlacek W.E. and Prieto D.O., The relationship between attitudes toward diversity and overall satisfaction of university students by race, *Journal of College Counseling*, **1**(2), 111–120 (1998)
- Eom S.B., Wen H.J. and Ashill N., The Determinants of Students' Perceived Learning Outcomes and Satisfaction in University Online Education: An Empirical Investigation\*, *Decision Sciences Journal of Innovative Education*, **4**(2), 215–235 (2006)
- Lomas L., Are students customers? Perceptions of academic staff, *Quality in Higher Education*, **13**(1), 31–44 (2007)
- McCollough M.A. and Gremler D.D., Guaranteeing student satisfaction: an exercise in treating students as customers, *Journal of Marketing Education*, **21**(2), 118–130 (1999)
- Palacio A.B., Meneses G.D. and Pérez P.J.P., The configuration of the university image and its relationship with the satisfaction of students, *Journal of Educational Administration*, **40**(5), 486–505 (2002)
- Svensson G. and Wood G., Are university students really customers? When illusion may lead to delusion for all! *International Journal of Educational Management*, **21**(1), 17–28 (2007)
- Schwartzman R., Are students customers? The metaphoric mismatch between management and education, *Education-Indianapolis*, **116**(1), 215–222 (1995)
- Pitman T., Perceptions of academics and students as customers: a survey of administrative staff in higher education, *Journal of Higher Education Policy and Management*, **22**(2), 165–175 (2000)
- Logue C.T., Lounsbury J.W., Gupta A. and Leong F.T., Vocational interest themes and personality traits in relation to college major satisfaction of business students, *Journal of Career Development*, **33**(3), 269–295 (2007)
- Zamanzad et al., Studies rate of satisfaction and trainee and intern medical students from educational quality of the clinical period medical sciences university of Shahre-Kord, *Journal of komesh* (2005)
- Darvish Motevali et al., examined students' satisfaction trough fuzzy approach (case study: Islamic Azad university at Firouz kouh branch), *Journal of hamayesh*, (2008)