Faculty Satisfaction with Online learning in University of Basrah

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Abstract
Background: Online learning by definition "learning experiences in synchronous or asynchronous settings by utilizing different devices (e.g. tab, mobile, laptops) with the use of internet. The satisfaction about online education comprises many factors, such as communication, student involvement in online discussions, flexibility, capacity, technology support, instructor pedagogical skills, and feedback, so the satisfaction is multifaceted and multidimensional. The aim of the study is to determine the factors that affect instructors' perceived satisfaction in the online teaching and to Identifies variables which contribute to positive online teaching outcomes. **Methode**: A total 214 of faculty members involved in this study who taught in online method in four colleges at Basrah University using a questionnaire made for this purpose divided in to two section sociodemographic and likert scale consist of 25 questions, Descriptive statistics were used to analyze the answers of the survey by using SPSS program. **Results:** The satisfaction of faculty members about online teaching was mostly due to the flexibility of engagement to the lecture at any time and place for both instructors and the students, while the high workload and consuming of time to prepare the class have the highest rate of dissatisfaction, although technical problems paly major role in the dissatisfaction. Age, genders, faculty rank, computer proficiency and the experience in online teaching were found no significant association with faculty satisfaction. As conclusion ,in general the overall degree of faculty member's satisfaction is poor and had negative attitude toward the online teaching. **Recommendation:** Finally due to major role for the online teaching in supporting the continuity of the teaching process, a frequent training sessions about using the new technology in learning process and improving teachers' technical skills is highly recommended for all instructors regardless the variables that were examined in the study. Students satisfaction about online teaching is an important element to the success of the online teaching process so it's should examine in the future studies.
Keyword: faculty members, Basrah University, Satisfaction

1. Introduction

Online learning by definition "learning experiences in synchronous or asynchronous settings by utilizing different devices (e.g. tab, mobile, laptops) with the use of internet. In these environments, students can be anywhere to learn and interact with instructors and their colleagues". [1] The establishment of the online application facilitate easy learning and enhanced understanding. Distance education become easy due to rapid developments in technology. [2]

The satisfaction about online education comprises many factors, such as communication, student involvement in online discussions, flexibility, capacity, technology support, instructor pedagogical skills, and feedback, so the satisfaction is multifaceted and multidimensional. [3] Three learning speculations: social cognitive hypothesis, interaction equivalency hypothesis, and social integration hypothesis consider as a base of online satisfaction. [4–6] Engaging in activities, and receiving feedback, make the students to build a knowledge in a social context while interacting with others. [4] Critical part in satisfaction is the interactions of the students with other students, instructors and content. Subsequently, the usage of different sorts of interactivity inside the learning setting took a major part to increase the satisfaction with internet based learning. [5] Students satisfaction made by engaging them in formal extracurricular activities in expansion to their scholastic program. Additionally, casual faculty–peer social interaction is esteemed within the learning process. [6]

Changes had been produced within the teaching-learning process in higher education societies by coronavirus pandemic and had influenced the interaction between students and lecturers. As a result of the pandemic, numerous governments and colleges took measures in order to maintain a strategic distance from spreading the infection and to guarantee the progression of the educational process, so they were obliged to carrying out their learning process with students only online. [7,8] During the Coronavirus pandemic internet-based learning became a vital section for preserving the activity of colleges and universities, while it was reflected an alternative to conventional learning. [9] Abruptly, COVID-19 arose with slight or no preparation in place in many nations. During the COVID-19 period the learning scheme is

doi.org/10.31838/hiv23.03.296 Received: 17.11.22, Revised: 28.12.22, Accepted: 04.01.23.

characterized by a 'new normal' which is depicted as a circumstance that happens after an extreme change. Online education has been used as an addition method to expand the classical approach to teaching. The courtesy of COVID-19 is the abrupt conversion from face-to-face teaching to 100 percent online education. [10]

E-learning includes three parts, i.e., students, instructors, and education institutions. There's no denying that the success of e-learning depends forcefully on the student learning/student satisfaction in that their satisfaction or disappointment with e-learning encounters has direct effect on student maintenance. Satisfaction on the portion of students, agreeing to the American Distance Instruction Consortium is the most significant key to continue learning. [11] However, as an organizer of learning, the role of an instructor in e-learning and their satisfaction with their instruction cannot be undervalued in the process of guaranteeing the learning quality. Faculty satisfaction and student satisfaction are likely to be a work of each other. Several spurring components of the cooperation of faculty in e-learning have been investigated by previous studies. many years ago, there has been a dramatic increase in the number of courses offered in an online or distance learning format ,A result of a research that was conducted in UA at 2010, more than 5.6 million students taking at least one online class during the fall 2009 semester. [12] Up from 1.6 million at 2002 in UA, 7.1 million learners took at minimum one online course at 2014,The rate of online conscriptions exceeds the rate of overall conscriptions in higher education. [13] There are two essential differences between the traditional and technology-enhanced sessions relate to the area (where to engage) and choice of time (when to engage).

At present time, online education is very vital , so the justification of the study is to conduct a research in order to cooperate in improving the online teaching. Many studies have measured faculty satisfaction with online teaching when it was an adjuvant method. [14, 15] To the best of our knowledge, no study has measured faculty satisfaction in Basrah city when teaching becomes completely online during the coronavirus pandemic .objectives of this study to determine the factors that affect instructors' perceived satisfaction in the online teaching and to identifies variables which affect instructors satisfaction on online teaching.

2. Methodology

A cross-sectional study was conducted in Basrah University at Basrah province which is located in south of Iraq between March and August 2021. The University of Basrah became an independent academic institution in 1967. The university is spread across three campuses in the city, while there are also several research centers and halls of residence for enrolled students . Abruptly during coronavirus pandemic, Basrah University had changed their system to deliver the curricula completely online using synchronous and asynchronous session. A total of three public scientific Colleges and one Humanity College in Basrah University . College of Medicine, College of Engineering, College of Science and College of Art. The questionnaire were distributed to all the faculty participants in the colleges that stated above officially , the collection of data continue for four months period from May - August 2021, accordingly 214 persons, (46) from college of medicine, (51) from college of engineering, (42) from college of science and (75) from college of art, were responded to be included in this study. A questionnaire made for this purpose based on the Online Faculty Satisfaction Survey scale [11] which investigated the factors that might affect faculty's perceived satisfaction in online courses. The survey divided into two parts sociodemographic, non-demographic information (see table 2.1) and satisfaction scales with online learning, a total thirty three questions, twenty five objects with a 4 point Likert scale, that are ranging from 4 - 1 point (see table 2.2). According to problems impacting the online teaching an items were formed and separated to three aspects: (1) instructor - student factor (2) technology factor and (3) institution factor. Respectively 13, 7, and 5 items were created based on the concepts derived from the literature. [11] Each item of likert scale assessed separately in term of Good and Poor that's reflect the level of satisfaction of all the participants, the cut-off point between good and poor assessment is 2.5 as a result of the equation{ (4+3+2+1)/4} [16].

Furthermore, we calculate the score of the faculty satisfaction for each participant, also, we subdivided the score to a levels as following (fail < 50), (fair 50 – 59), (intermediate 60 – 69), (good 70 – 79), (very good 80 – 89) and (excellent 90 – 100). Both the online and paper questionnaire were written with two languages Arabic and English copies, were sent to the faculty members in the targeted Colleges. Before the starting to fill out the questionnaire, all the instructors were informed about the objectives of the research and were told that participation was voluntary. The online questionnaire was made using the free application Google Forms and then sent as a link on the Whats application to the heads of departments of the four colleges. Participants needed to open a secure server site in order to dictate the online questionnaire, which take approximately fifteen minutes; however, in order to respect the anonymity neither the names of the Participants nor their Email were registered.The data were analyzed using statistical package for social science (SPSS version 26) descriptive statistic were presented as frequencies and percentages. Chi square test was used for significant value, a p-value of <0.05 was consider to be significant.

Table 2.1: Sociodemographic and non-demographic variables questions		
Variable NO.	Variables	Category
1	Gender	male female
2	Age	less than 35 35-50 year more than 50 year
3	Place of work	college of medicine college of engineering college of science college of art
4	Faculty rank	professor assistant professor Lecturer/Instructor
5	Computer Proficiency	Beginner/Intermediate Advanced
6	Online Course Teaching	less than 1 year 1- 2 year Greater than 2 years
7	Proportion of Online Teaching	Less than 20% 20–40% 41–60% 61–80% Greater than 80%
8	Education Training Session	frequently provided sometimes Not really

Table 2.2: Items description by likert scale.

Items N.	Items Description	Available Response with estimated degree
Item 1	I have to be more creative in terms of the resources used for the online course.	Strongly disagree[4] Disagree[3] Agree[2] Strongly agree[1]
Item 2	I appreciate that I can access my online course any time at my convenience.	Strongly agree[4] Agree[3] Disagree[2] Strongly disagree[1]
Item 3	I do not have any problems controlling my students in the online environment.	Strongly agree[4] Agree[3] Disagree[2] Strongly disagree[1]
Item 4	It is valuable to me that my students can access my online course from any place in the world.	Strongly agree[4] Agree[3] Disagree[2] Strongly disagree[1]
Item 5	The flexibility provided by the online environment is important to me.	Strongly agree[4] Agree[3] Disagree[2] Strongly disagree[1]
Item 6	My students use a wider range of resources in the online setting than in the traditional one.	Strongly agree[4] Agree[3] Disagree[2] Strongly disagree[1]
Item 7	I am concerned about receiving lower course evaluations in the online course as compared to the traditional one.	Strongly disagree[4] Disagree[3] Agree[2] Strongly agree[1]
Item 8	My students are very active in communicating with me regarding online course matters	Strongly agree[4] Agree[3] Disagree[2] Strongly disagree[1]
Item 9	I am more satisfied with teaching online as compared to other delivery methods.	Strongly agree[4] Agree[3] Disagree[2] Strongly disagree[1]
Item 10	It is more difficult for me to motivate my students in the online environment than in the traditional setting.	Strongly disagree[4] Disagree[3] Agree[2] Strongly agree[1]
Item 11	The level of my interactions with students in the online course is higher than in a traditional face-to-face class.	Strongly agree[4] Agree[3] Disagree[2] Strongly disagree[1]
Item 12	My online students are actively involved in their learning.	Strongly agree[4] Agree[3] Disagree[2] Strongly disagree[1]
Item 13	I look forward to teaching my next online course.	Strongly agree[4] Agree[3] Disagree[2] Strongly disagree[1]
Item 14	The technology I use for online teaching is reliable.	Strongly agree[4] Agree[3] Disagree[2] Strongly disagree[1]
Item 15	I miss face-to-face contact with students when teaching online.	Strongly disagree[4] Disagree[3] Agree[2] Strongly agree[1]
Item 16	I am satisfied with the use of communication tools in the online environment	Strongly agree[4] Agree[3] Disagree[2] Strongly disagree[1]
Item 17	Online teaching is often frustrating because of technical problems.	Strongly disagree[4] Disagree[3] Agree[2] Strongly agree[1]
Item 18	Technical problems do not discourage me from teaching online.	Strongly agree[4] Agree[3] Disagree[2] Strongly disagree[1]
Item 19	Online teaching is gratifying because it provides me with an opportunity to reach students who otherwise would not be able to take courses.	Strongly agree[4] Agree[3] Disagree[2] Strongly disagree[1]
Item 20	Not meeting my online students face-to-face prevents me from knowing them as well as my on-site students.	Strongly disagree[4] Disagree[3] Agree[2] Strongly agree[1]
Item 21	I have a higher workload when teaching an online course as compared to the traditional one.	Strongly disagree[4] Disagree[3] Agree[2] Strongly agree[1]
Item 22	It takes me longer to prepare for an online course on a weekly basis than for a face-to-face course.	Strongly disagree[4] Disagree[3] Agree[2] Strongly agree[1]
Item 23	The participation level of my students in the class discussions in the online setting is lower than in the traditional one.	Strongly disagree[4] Disagree[3] Agree[2] Strongly agree[1]
Item 24	My online students are more enthusiastic about their learning than their traditional counterparts.	Strongly agree[4] Agree[3] Disagree[2] Strongly disagree[1]
Item 25	I am able to provide better feedback to my online students on their performance in the course.	Strongly agree[4] Agree[3] Disagree[2] Strongly disagree[1]

3. Results

Only 203 from the total of 214 respondents had answered the question related to the age, the age of study population ranged between 30-65 years, 46 (21.5%) were more than 50 years, 142 (66.4%) in the age group 35-50 year, and the remaining 15

(7%) were less than 35 years (table 3.1) From 214 respondents, 86 (40.2%) were females and 128 (59.8%) were males (table 3.1)

Table 3.1: Demographic characteristics of the study population			
Demographic characteristic		Frequency	Percentage (%)
Gender	Male	128	59.8
	Female	86	40.2
	Total	214	100.0
Age	Less than 35 years	15	7.0
	35 – 50 year	142	66.4
	More than 50 year	46	21.5
	Total	203	94.9
*11 missed answers for the age characteristic (5.1%)			

The non-demographic characteristics of the participants showing, College of art took the highest percentage (35.05%), 44.9% of the responders classified as lecturer/instructor, the highest present of them had an advanced skills in computer (50.7%), For study objects linked to teaching skill, the highest percentage were 1-2 years of online teaching experience (73.4%), (37.6%), More than 80% of the participant's course sections were completely online, regarding the education training session more than half of the responders had an sometimes training session (56.1%), table (3.2).

Table 3.2: Non-demographic characteristics of the study population			
Non-demographic characteristic		Frequency	Percentage (%)
College	College of medicine	46	21.50
	College of engineering	51	23.83
	College of science	42	19.63
	College of art	75	35.05
	Total	214	100.0
Faculty rank	Professor	30	14.0
	Assistant Professor	88	41.1
	Lecturer/Instructor	96	44.9
	Total	214	100.0
*Computer proficiency	Beginner/Intermediate	105	49.3
	Advanced	108	50.7
	Total	213	100.0
Online course teaching	Less than 1 year	31	14.5
	1-2 year	157	73.4
	More than 2 years	26	12.1
	Total	214	100.0
*Proportion of online teaching	Less than 20%	10	4.7
	20-40%	25	11.7
	41-60%	52	24.4
	61-80%	46	21.6
	Greater than 80%	80	37.6
	Total	213	100.0
Training sessions	Frequently provided	23	10.7
	Sometimes	120	56.1
	Not really	71	33.2
	Total	214	100.0
* One missed answer			

Eighteen items of the total 25 items have a Poor assessment by the responders. The lowest value of the overall Mean for the Institution Factors is 1.8 which reflect the dissatisfaction of faculty members regarding the institutional support Tables (3.3 A, 3.3 B and 3.3 C).

Table 3.3 A: Assessment of response per each question							
Item NO.	SD(%)	D (%)	A (%)	SA (%)	M	SD	Assessment
*Instructor - student factor							
Item 1	8 (3.7)	26 (12.1)	143 (66.8)	37 (17.3)	2.02	0.667	Poor
Item 2	9 (4.2)	55 (25.7	120 (56.1)	30 (14.0)	2.80	0.726	Good
Item 3	22 (10.3)	78 (36.4)	90 (42.1)	24 (11.2)	2.54	0.825	Good
Item 4	7 (3.3)	34 (15.9)	125 (58.4)	48 (22.4)	3.00	0.719	Good
Item 5	4 (1.9)	39 (18.2)	125 (58.4)	46 (21.5)	3.00	0.689	Good
Item 6	29 (13.6)	98 (45.8)	73 (34.1)	14 (6.5)	2.34	0.792	Poor
Item 7	8 (3.7)	68 (31.8)	110 (51.4)	28 (13.1)	2.26	0.729	Poor
Item 8	35 (16.4)	108 (50.7)	60 (28.2)	10 (4.7)	2.21	0.769	Poor
Item 9	52 (24.3)	108 (50.5)	44 (20.6)	10 (4.7)	2.06	0.797	Poor
Item 10	4 (1.9)	41 (19.2)	123 (57.5)	46 (21.5)	2.01	0.695	Poor
Item 11	57 (26.6)	128 (59.8)	24 (11.2)	5 (2.3)	1.89	0.68	Poor
Item 12	28 (13.1)	119 (55.6)	60 (28.0)	7 (3.3)	2.21	0.706	Poor
Item 13	17 (7.9)	103 (48.1)	85 (39.7)	9 (4.2)	2.40	0.697	Poor
Overall mean 2.3							

Table 3.3 B: Assessment of response per each question							
Item NO.	SD (%)	D (%)	A (%)	SA (%)	M	SD	Assessment
*The Technology Factor							
Item 14	6 (2.8)	48 (22.5)	139 (65.3)	20 (9.4)	2.81	0.631	Good
Item 15	8 (3.7)	40 (18.7)	108 (50.5)	58 (27.1)	1.99	0.781	Poor
Item 16	23 (10.7)	90 (42.1)	95 (44.4)	6 (2.8)	2.39	0.715	Poor
Item 17	3 (1.4)	34 (15.9)	104 (48.6)	73 (34.1)	1.85	0.731	Poor
Item 18	22 (10.3)	47 (22.0)	118 (55.1)	27 (12.6)	2.70	0.819	Good
Item 19	22 (10.3)	74 (34.7)	99 (46.5)	18 (8.5)	2.53	0.792	Good
Item 20	7 (3.3)	18 (8.5)	100 (46.9)	88 (41.3)	1.74	0.75	Poor
Overall mean 2.2							

Table 3.3 C: Assessment of response per each question							
Item NO.	SD (%)	D (%)	A (%)	SA (%)	M	SD	Assessment
*institution Factor							
Item 21	5 (2.3)	24 (11.3)	94 (44.1)	90 (42.3)	1.74	0.75	Poor
Item 22	6 (2.8)	33 (15.5)	104 (48.8)	70 (32.9)	1.88	0.77	Poor
Item 23	2 (0.9)	18 (8.5)	109 (51.2)	84 (39.4)	1.71	0.66	Poor
Item 24	56 (26.3)	99 (46.5)	51 (23.9)	7 (3.3)	2.04	0.797	Poor
Item 25	47 (22.1)	109 (51.2)	52 (24.4)	5 (2.3)	2.07	0.746	Poor
Overall mean 1.8							
*SD: standard deviation, M: mean, SD: strongly disagree, D: disagree, A: agree, SA: strongly agree							
*Satisfaction level categorization: Poor < 2.5, Good ≥ than 2.5							

For the assessment of faculty satisfaction in relation to variables for each factors, the result found a good satisfaction on the online teaching for the age in relation to technology factors with P-value (0.021), also for the proportion of online teaching in relation to Instructor-Student factors showed a good satisfaction with P-value (0.007) tables (3.4 A and 3.4 B).

Table 3.4A: The relation between the variables and three factors on the faculty satisfaction										
Factors Variables		Instructor-student factor			Technology factor			Institution factor		
		Disagree NO. (%)	Agre NO. (%)	Total NO. (%)	Disagree NO. (%)	Agree NO. (%)	Total NO. (%)	Disagree NO. (%)	Agree NO. (%)	Total NO .(%)
Sex	Male	43 (33.6)	85 (66.4)	128 (100)	39 (30.5)	89 (69.5)	128 (100)	5 (3.9)	123 (96.1)	128 (100)
	Female	33 (38.4)	53 (61.6)	86 (100)	31 (36.0)	55 (64.0)	86 (100)	6 (7.1)	79 (92.9)	85 (100)
	Total	76 (35.5)	138 (64.5)	214 (100)	70 (32.7)	144 (67.3)	214 (100)	11 (4.7)	202 (95.3)	213 (100)
	Statistical significant	P value: 0.475			P value: 0.429			P value: 0.314		
Age	Less than 35 year	7 (46.7)	8 (53.3)	15 (100)	9 (60.0)	6 (40.0)	15 (100)	2 (13.3)	13 (86.7)	15 (100)
	35 – 50 year	48 (33.8)	94 (66.2)	142 (100)	40 (28.2)	102 (71.8)	142 (100)	5 (3.5)	137 (96.5)	142 (100)
	More than 50 year	19 (41.3)	27 (58.7)	46 (100)	20 (43.5)	25 (54.3)	46 (100)	4 (8.9)	41 (91.1)	45 (100)
	Total	74 (36.5)	129 (63.5)	203 (100)	69 (34.0)	133 (65.5)	203 (100)	11 (5.4)	191 (94.6)	202 (100)
	Statistical significant	P value : 0.461			P value : 0.021			P value : 0.187		
College	Medicine	12 (26.1)	34 (73.9)	46 (100)	13 (28.3)	33 (71.7)	46 (100)	4 (8.9)	41 (91.1)	45 (100)
	Engineering	17 (33.3)	34 (66.7)	51 (100)	18 (35.3)	33 (64.7)	51 (100)	1 (2.0)	50 (98.0)	51 (100)
	Science	15 (35.7)	27 (64.3)	42 (100)	12 (28.6)	30 (71.4)	42 (100)	1 (2.4)	41 (97.6)	42 (100)
	Art	32 (42.7)	43 (57.3)	75 (100)	27 (36.0)	48 (64.0)	75 (100)	5 (6.7)	70 (93.3)	75 (100)
	Total	76 (35.5)	138 (64.5)	214 (100)	70 (32.7)	144 (67.3)	214 (100)	11 (5.2)	202 (94.8)	213 (100)
	Statistical significant	P value: 0.306			P value: 0.746			P value: 0.310		
Faculty rank	Professor	10 (33.3)	20 (66.7)	30 (100)	8 (26.7)	22 (73.3)	30 (100)	2 (6.7)	28 (93.3)	30 (100)
	Assistant prof.	36 (40.9)	52 (59.1)	88 (100)	28 (31.8)	60 (68.2)	88 (100)	4 (4.6)	83 (95.4)	87 (100)
	Lecturer/ instructor	30 (31.3)	66 (68.8)	96 (100)	34 (35.4)	62 (64.6)	96 (100)	5 (5.2)	91 (94.8)	96 (100)
	Total	76 (35.5)	138 (64.5)	214 (100)	70 (32.7)	144 (67.3)	214 (100)	11 (5.2)	202 (94.8)	213 (100)
	Statistical significant	P value: 0.380			P value: 0.623			P value: 0.911		

Table 3.4B: The relation between the variables and three factors on the faculty satisfaction										
Factors Variables		Instructor-student factor			Technology factor			Institution factor		
		Disagree NO. (%)	Agree NO. (%)	Total NO.(%)	Disagree NO. (%)	Agree NO. (%)	Total NO.(%)	Disagree NO.(%)	Agree NO. (%)	Total NO.(%)
Computer proficiency	Beginner/intermediat	35 (33.3)	70 (66.7)	105 (100)	32 (30.5)	73 (69.5)	105 (100)	6 (5.8)	98 (94.2)	104 (100)
	Advanced	40 (37.0)	68 (63.0)	108 (100)	38 (35.2)	70 (64.8)	108 (100)	5 (4.6)	103 (95.4)	108 (100)
	Total	75 (35.2)	138 (64.8)	213 (100)	70 (32.9)	143 (67.1)	213 (100)	11 (5.2)	201 (94.8)	212 (100)
	Statistical significant	P value: 0.571			P value: 0.389			P value: 0.708		
Online course teaching	Less than 1 year	6 (19.4)	25 (80.6)	31 (100)	10 (32.3)	21 (67.7)	31 (100)	2 (6.5)	29 (93.5)	31 (100)
	1 – 2 years	58 (36.9)	99 (63.1)	157 (100)	48 (30.6)	109 (69.4)	157 (100)	8 (5.1)	149 (94.9)	157 (100)
	More than 2 years	12 (46.2)	14 (53.8)	26 (100)	12 (46.2)	14 (53.8)	26 (100)	1 (4.0)	24 (96.0)	25 (100)
	Total	76 (35.5)	138 (64.5)	214 (100)	70 (32.7)	144 (67.3)	214 (100)	11 (5.2)	202 (94.8)	213 (100)
	Statistical significant	P value: 0.071			P value: 0.572			P value: 0.917		
Proportion of online teaching	Less than 20%	2 (20.0)	8 (80.0)	10 (100)	4 (40.0)	6 (60.0)	10 (100)	1 (10.0)	9 (90.0)	10 (100)
	20-40%	3 (12.0)	22 (88.0)	25 (100)	6 (24.0)	19 (76.0)	25 (100)	2 (8.0)	23 (92)	25 (100)
	41-60%	19 (36.5)	33 (63.5)	52 (100)	15 (28.8)	37 (71.2)	52 (100)	3 (5.8)	49 (94.2)	52 (100)
	61-80%	13 (28.3)	33 (71.7)	46 (100)	14 (30.4)	32 (69.6)	46 (100)	2 (4.4)	43 (95.6)	45 (100)
	More than 80%	38 (47.5)	42 (52.5)	80 (100)	31 (38.8)	49 (61.3)	80 (100)	3 (3.8)	77 (96.2)	80 (100)
	Total	75 (35.2)	138 (64.8)	213 (100)	70 (32.9)	143 (67.1)	213 (100)	11 (5.2)	201 (94.8)	212 (100)
	Statistical significant	P value: 0.007			P value: 0.689			P value: 0.881		
Training sessions	Frequent	13 (56.5)	10 (43.5)	23 (100)	10 (43.5)	13 (56.5)	23 (100)	2 (9.1)	20 (90.9)	22 (100)
	Sometimes	38 (31.7)	82 (68.3)	120 (100)	39 (32.5)	81 (67.5)	120 (100)	7 (5.8)	113 (94.2)	120 (100)
	Not really	25 (35.2)	46 (64.8)	71 (100)	21 (29.6)	50 (70.4)	71 (100)	2 (2.8)	69 (97.2)	71 (100)
	Total	76 (35.5)	138 (64.5)	214 (100)	70 (32.7)	144 (67.3)	214 (100)	10 (5.2)	202 (94.8)	213 (100)
	Statistical significant	P value: 0.082			P value: 0.620			P value: 0.444		

The highest percent of males and females instructors had fair level of satisfaction (41.4%) and (39.5%) respectively, intermediate level of satisfaction had high percent among young age group (60%), College of Engineering, lecturer of faculty rank, beginner\intermediate computer proficiency, less than 1 year of online courses, 61-80% of proportion of the online teaching and sometimes of providing training sessions had highest percent of fair level of satisfaction (51%), (43.8), (42.9%), (51.6%), (45.7%) and (44.2%) respectively tables (3.5A and 3.5B).

Table 3.5A: Relation between the variables and the level of faculty satisfaction								
Degree Variables		Fail	Fair	Intermediate	Good	Very good	excellent	Total
Sex	Male	31 (24.2)	53 (41.4)	37 (28.9)	7 (5.5)	0 (00.0)	0 (00.0)	128 (100.0)
	Female	20 (23.3)	34 (39.5)	28 (32.6)	2 (2.3)	1 (1.2)	1 (1.2)	86 (100)
	Total	51 (23.8)	87 (40.7)	65 (30.4)	9 (4.2)	1 (0.5)	1 (0.5)	214 (100.0)
	Statistical significant	P value 0.387						
Age	Less than 35 year	3 (20.0)	3 (20.0)	9 (60.0)	0 (00.0)	0 (00.0)	0 (00.0)	15 (100)
	35 – 50 year	34 (23.9)	62 (43.7)	41 (28.9)	3 (2.1)	1 (0.7)	1 (0.7)	142 (100.0)
	More than 50 year	10 (21.7)	16 (34.8)	14 (30.4)	6 (13.0)	0 (00.0)	0 (00.0)	46 (100.0)
	Total	47 (23.2)	81 (39.9)	64 (31.5)	9 (4.4)	1 (0.5)	1 (0.5)	203 (100.0)
	Statistical significant	P value 0.063						
College	Medicine	13 (28.3)	19 (41.3)	11 (23.9)	3 (6.5)	0 (00.0)	0 (00.0)	46 (100.0)
	Engineering	9 (17.6)	26 (51.0)	14 (27.5)	2 (3.9)	0 (00.0)	0 (00.0)	51 (100.0)
	Science	13 (31.0)	14 (33.3)	13 (31.0)	2 (4.8)	0 (00.0)	0 (00.0)	42 (100.0)
	Art	16 (21.3)	28 (37.3)	27 (36.0)	2 (2.7)	1 (1.3)	1 (1.3)	75 (100.0)
	Total	51 (23.8)	87 (40.7)	65 (30.4)	9 (4.2)	1 (0.5)	1 (0.5)	214 (100.0)
	Statistical significant	P value 0.745						
Faculty rank	Professor	8 (26.7)	13 (34.3)	6 (20.0)	2 (6.7)	1 (3.3)	0 (0.00)	30 (100.0)
	Assistant prof.	22 (25.0)	32 (36.4)	30 (34.1)	4 (4.5)	0 (00.0)	0 (00.0)	88(100.0)
	Lecturer/ instructor	21 (21.9)	42 (43.8)	29 (30.2)	3 (3.1)	0 (00.0)	1 (1.0)	96 (100.0)
	Total	51 (23.8)	87 (40.7)	65 (30.4)	9 (4.2)	1 (0.5)	1 (0.5)	214 (100.0)
	Statistical significant	P value 0.395						

Table 3.5A: Relation between the variables and the level of faculty satisfaction								
Degree Variables		Fail	Fair	Intermediate	Good	Very good	excellent	Total
Computer proficiency	Beginner/ intermediate	24 (22.9)	45 (42.9)	30 (28.6)	4 (3.8)	1 (1.0)	1 (1.0)	105 (100.0)
	Advanced	27 (25.0)	42 (38.9)	34 (31.5)	5 (4.6)	0 (00.0)	0 (00.0)	108 (100.0)
	Total	51 (23.9)	87 (40.8)	64 (30.0)	9 (4.2)	1 (0.5)	1 (0.5)	213 (100.0)
	Statistical significant	P value 0.761						
Online course teaching	Less than 1 year	7 (22.6)	16 (51.6)	7 (22.6)	1 (3.2)	0 (00.0)	0 (00.0)	31 (100.0)
	1 – 2 years	36 (22.9)	64 (40.8)	48 (30.6)	7 (4.5)	1 (0.6)	1 (0.6)	157 (100.0)
	More than 2 years	8 (30.8)	7 (26.9)	10 (38.5)	1 (3.8)	0 (00.0)	0 (00.0)	26 (100.0)
	Total	51 (23.8)	87 (40.7)	65 (30.4)	9 (4.2)	1 (0.5)	1 (0.5)	214 (100.0
	Statistical significant	P value 0.869						
Proportion of online teaching	Less than 20%	3 (30.0)	4 (40.0)	2 (20.0)	0 (00.0)	1 (10.0)	0 (00.0)	10 (100.0)
	20-40%	12 (48.0)	9 (36.0)	4 (16.0)	0 (00.0)	0 (00.0)	0 (00.0)	25 (100.0)
	41-60%	8 (15.4)	23 (44.2)	19 (36.5)	2 (3.8)	0 (00.0)	0 (00.0)	52 (100.0)

	61-80%	10 (21.7)	21 (45.7)	11 (23.9)	3 (6.5)	0 (00.0)	1 (2.2)	46 (100.0)
	More than 80%	18 (22.5)	30 (37.5)	28 (35.0)	4 (5.0)	0 (00.0)	0 (00.0)	80 (100.)
	Total	51 (23.9)	87 (40.8)	64 (30.0)	9 (4.2)	1 (0.5)	1 (0.5)	213 (100.0)
	Statistical significant	P value 0.217						
Training sessions	Frequent	5 (21.7)	8 (34.8)	8 (34.8)	2 (8.7)	0 (00.0)	0 (00.0)	23 (`100.0)
	Sometimes	25 (20.8)	53 (44.2)	36 (30.0)	4 (3.3)	1 (0.8)	1 (0.8)	120 (100.0)
	Not really	21 (29.60)	26 (36.6)	21 (29.6)	3 (4.2)	0 (00.0)	0 (00.0)	71 (100.0)
	Total	51 (23.8)	87 (40.7)	65 (30.4)	9 (4.2)	1 (0.5)	1 (0.5)	214 (100.0)
	Statistical significant	P value 0.829						

4. Discussion

Teaching online presented new challenges that altered faculty perspectives on teaching. Despite the challenges, faculty reported that overcoming them was rewarding because it improved both their online and in-person teaching practices. [17] In an effort to better support online teaching, researchers have begun to explore the virtual teaching experience from the perspective of online instructors.

The lowest degree of satisfaction about online teaching was institutional support, which indicates that the resources delivered by their institutions may not be enough to reach their satisfaction, such as workload lifts and consuming time for preparing the platform of the lecture. Previous study in Florida at 2000 found same result, which found that for making great quality online teaching, faculty development are essential and this is produced by good executive direction and tough institutionalized models, and that "technology focused faculty development programs should strive to become woven into the fabric of the institution and agents of institutional transformation". [18]

According to numerous researchers, faculty dissatisfaction is related to workload, student engagement issues, and time spent preparing teaching materials. [32,33] The current study backs up previous research, which found that faculty reported a higher workload, difficulty motivating students in an online environment, and it took longer to prepare for an online course. According to previous research, institutional support plays a critical role in incapacitating the aforementioned problems. [19,20]

Technology takes the second important factor which affect the overall faculty satisfaction, some issues related to learning managing platforms provided by online environment faced instructors, and these findings are matching with the findings of a result of study in USA at 2015, A unease of technical difficulties were documented . [21] The same result found in other studies that stated some faculty had a shortage of technical support, as well as the lack of technical abilities (like the speed of the internet that's used by both the students and the instructors), which in turn disappoint them from teaching by online methods. [22,23]

Also this study found that most instructors agreed with involvement of the technology and gave a positive feedback about communication tools that's provided by the online teaching method. This finding is supported by the result of the study that was conducted in United Arab Emirates at 2020 which found faculty were satisfied with the communication and communication tools used during online learning. [24] Despite this agreement the study revealed there were some issues related to the technical problems to be frustrating and might interfere with communication between the faculty and student interaction, the same previous mentioned study stated that the technical difficulties are second reported challenge that experienced the faculty, the faculty agreed on the importance of training and IT support. [24]

The third most important factor which influence the faculty satisfaction is the instructors students interaction, the best available educational approaches and resources are delivered by the instructors to facilitate students' accessibility to the online environment, as well as to help students' intendant in these classes, and this in turn lead to success of learning and teaching. The current results support the findings of a study which reported that faculty satisfaction and student learning had strong correlation. [18]. similarly, these findings similar with those found at Ohio in 2020, higher levels of perceived satisfaction among faculty who are able to create personal connections with their students in the online environment than those who do not. [25]

Most of faculty reported that the level of the student's discussion was lower in the online method, as the result of a study was done in the past year at UAE which stated that's approximately two third of faculty thought that the participation of

students in online discussions is lower than in face-to-face classes [24]. Although of the negative point of the discussion matter but the majority of instructors showed a great appreciation for the online environment due to the flexibility provided to them to access the classes at any time and place. Previous studies also found that's flexibility and accessibility could be offered for both faculty and students in online courses [14, 26-29].

There are only few researches examined the association between the different variables (age, genders, colleges, faculty rank, proportion of online teaching, training sessions, and computers proficiency) and the three factors (instructor student, technology and institution) on the faculty satisfaction about the online teaching, in regard of the genders there is no significant association between the genders (male or female) on the faculty satisfaction. On previous study, Satisfaction across genders is a contradictory issue; a study revealed that genders have no differences in satisfaction about online teaching. [30] While in another study found that the satisfaction about online learning were more in females than males instructors. [31]

Also this study found that there is significant association between the age and the sudden transient of teaching methods on the faculty satisfaction, and this association in the technology factor. This association is explain by lacking of experience in the field of technological development, particularly among middle age instructors, this finding might not agree with previous studies, Bandura suggest that age does not correlate with efficacy, as there is much variance in the way people manage their teaching style. [32]

Despite there are no previous study to examine the effect of types of colleges and faculty rank on the faculty satisfaction, the present study showed no significant association between these two variables and the faculty satisfaction. User computer skill is considered as silent and potential facilitator of effectiveness of online teaching so some concern has been directed toward this aspect. [33] Educational approaches could be reduced in presence of inadequate technical skills among computer users, given that the cognitive engagement with contents require sufficient computer proficiency. The study couldn't find significant association between the computer proficiency and faculty satisfaction, Future work should further explore the internal structure of this scale and the nature of the computer proficiency for online learning. Instructors who taught online courses during the pandemic faced an additional obligation. In this environment, they would have to adapt to a changing climate, polish their technical skills throughout the process, and foster new students' technical knowledge. [34] The proportion of online teaching had high significant association on the faculty satisfaction through direct impact on instructor student interaction, the same result in a study conducted in UA at 2016, which found that the more number of online courses that's given by instructors in online method in higher education the more degree of faculty satisfaction with online teaching, effective online courses, and student success. [35]

Two important subject for fresh online instructors which are technical exercise and instructional strategy support, in spite the present study did not find a significant association in training sessions and the three factors, Many studies found that a courses for the faculty about the new approaches of teaching like in the online setting can easily to change their old-style views of instructional roles. [36, 37] Thus, digital educational training will help to alleviate some of the insecurities that online faculty face as their online academic identities and roles in the virtual learning environment evolve.

To catch up a final idea about the degree of satisfaction among the instructors about online teaching, a total score for each participants was calculated and linked it with different variables to see if there is an association. The result showed the majority of the instructors took a fair level, while the intermediate level had the second rank among the acceptance, no significant association was found between the variables and the degree of satisfaction. Furthermore, students satisfaction took an crucial role in the success of the teaching process so it's highly recommended to be examined in the future studies.

5. Conclusions

1) The current study found that there are three important factors which effect on the faculty satisfaction, those factors are instructor student interaction factor, technology factors and institution factor.

2) In general the overall degree of faculty member's satisfaction is poor and had negative attitude toward the online teaching.

3) The institution factor had the lowest degree of faculty satisfaction score, which was mostly due to heavy workload and long-time of lecture preparation. These results should be of concern to administrators because the commitment of the faculty and their enthusiasm to continue the development and delivery of classes by online method are the key points to the success of online teaching.

4) In spite of reliability that found by the instructor of using the technology in teaching process, Technical issues are still the most difficult to solve, especially in related to the age.

5) Lack of an active learning, decrease the level of participation in online class discussions, are now becoming prominent in the education system in the process of online learning.

6. Recommendations

Based on the finding of the current study, the

following recommendation are suggested

1- Studying the student's satisfaction in higher education institution.

2- Creating training sessions for instructors or could developing a programs whose role would be to adapt instructors' skills on the technology and implicitly the quality of the educational process by these new methods.

3- Encourage the instructors by increasing the support that's provided by institution like solving all technical problems, supplying them with new technological devices for their own.

4- There is a need for concrete actions to improve and enhance the process of online teaching and learning, such as improving teachers' technical skills and expanding training programs to assist teachers in changing and adjusting their teaching style and the way they interact with students.

5- Students' interactions and engagement in classes improve when they participate in formal extracurricular activities in addition to their academic program

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