Medical Educators Satisfaction with Online Learning during the COVID-19 Pandemic

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Abstract:

Background: Medical educators' dissatisfaction may cause them to leave the practice of teaching, where it is often hard to replace those who have left. In addition, medical teaching staff dissatisfaction may indicate adverse quality for institution/ university organizations.

Objectives: To assess teaching staff satisfaction with online learning during the COVID pandemic at Al-Nahrain University /College of Medicine, Baghdad/Iraq.

Methodology: A cross-sectional study included a convenient sample of 50% of the teaching staff participating in the online academic year 2020-2021. The faculty satisfaction questionnaire was taken from the "Bolliger and Halupa" study, based on the validated Online Course Satisfaction Survey (OCSS) questionnaire that contains four major categories: Interaction, instructor planning, institutional support, and affordance.

Results: The study included 85 medical college teachers from all departments. The total satisfaction level of participants in this study was 25.6%, which is considered low. The total satisfaction score given by the participants was (0.98), the highest score of (1) was given to the items of affordance questions, and the lowest was given for student–instructor interaction and course design and development (0.79, 0.89), respectively.

Conclusion: The satisfaction of teaching staff with online learning during the COVID-19 pandemic was generally low, especially regarding student–instructor interaction and course design and development.

Keywords: Electronic learning, Interaction, Medical Education, Pandemic, Staff satisfaction.

Introduction:

Online learning has become the new normal in many medical and health science schools worldwide, especially after the COVID-19 pandemic. Satisfaction with online learning is a significant aspect of promoting successful education. (1)

Although electronic learning was the only solution during the COVID-19 pandemic, student and faculty satisfaction is crucial for successful and effective learning (2). Student and faculty satisfaction can be defined as attitude resulting from an "evaluation of educational experience, facilities, and services." Faculty satisfaction is defined as the "perception of the online teaching process as efficient, effective, and beneficial for both students and faculty"(3). It is important as it is associated with retention of teachers' practices or underperformance due to lack of motivation. At the same time, dissatisfaction may cause them to leave the practice of teaching, where it is often hard to replace those who have left. Second, dissatisfaction in the medical teaching staff environment may be an early indicator of adverse quality for institution/ university organizations. Third, staff dissatisfaction may also reflect student dissatisfaction and thus have an adverse effect on the quality of the learning process.

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as a whole. Therefore, administrators should continuously observe and monitor their educators' general satisfaction level as this is important for achieving the university goals, specific objectives, mission, assessment and outcomes, and overall performance (4,5).

Methodology:

This cross-sectional study was conducted on a convenient sample of 50% of the teaching staff participating in the online academic year 2020-2021. Data was collected from December 2021 to March 2022. The total number of Medical College Teaching Staff was 167 members, from whom 85 participated in the study.

The data collection instrument was an online questionnaire, along with the study information sheet and consent form, which were sent to the participants through the official social media of their respective departments.

The faculty satisfaction questionnaire was taken from the "Bolliger and Halupa" study, which is based on the validated questionnaire of the Online Course Satisfaction Survey (OCSS) [6]. The questionnaire is organized into two parts: The socio-demographic information and the satisfaction with online learning.

1- Sociodemographic information: Age, faculty/department, years of work

2- Satisfaction: Contain four major categories:

(a) Interaction between instructors and students: "How the learning environment is more comfortable

regarding college units and teachers' cooperation, support, and good infrastructure. "

(b) Instructor planning, designing, and delivering online instruction, Online course design, development, and teaching: "The design, preparation, and delivery of online courses, and their impact on workload."

(c) Institutional support: This is cited frequently in the faculty satisfaction literature. "These elements involve Release time, fair compensation, and rewards in general, adequate tools, training, technical support, and institutional policies."

(d) Affordances of online teaching and learning. "If instructors were receiving training and instructional support to maximize the benefits of these tools, or not."

Scoring: The score was calculated using satisfaction Likert scales (satisfied, unsatisfied, and neutral)
A satisfactory answer will be given   2
Neutral   1
Unsatisfied   0
Then, the mean satisfaction score is calculated for each category and the weight of these items using Cronbach's alpha.

Then, the total satisfaction level was calculated for the subscales by dividing the number of positive answers (satisfied) by the total answers of participants (85).
Frequency - Level less than 50 is considered poor
- 50-75 is considered fair
- More than 75 is considered good

Ethical considerations: The research protocol was presented to the Al-Nahrain College of Medicine's IRB committee for approval to collect data. The purpose and details of the study were explained to the participants on the first page of the Google form sent to them, and they were given the option to participate. Anonymity was ensured, and the participant's identity was respected if they chose not to expose it.

Statistical analysis: Statistical Package for Social Sciences (SPSS) version 23 was used for data entry and statistical analysis. Descriptive statistics (frequencies, percentages, and means) were used for demographic data and satisfaction scores.

Pilot study: A pilot study was carried out on a sample of participants (20) to assess the applicability of the questionnaire and the time needed, in addition to identifying any obstacles or difficulties that may be faced while filling out the Google form. The forms filled in the pilot phase were discarded.

Results
The study included 85 medical college teachers from all the departments, with a mean age of 45 ± 15.2 years. Fifty-nine (69.4%) were from the basic sciences departments, 48 (56.5%) were females, 52 (61.2%) had a teaching experience of more than ten years, and 54 (63.5%) were professors/ assistant professors, Table 1.

Table (1): Sociodemographic characteristics of the study sample (n=85)

Variables		N.	%
Department	Basic Sciences departments	59	69.4
	Clinical departments	26	30.6
Gender	Male	37	43.5
	Female	48	56.5
Years of experience	≤10 years	33	39
	> 10 years	52	61
Job title	Professor / Assistant professor	54	63.5
	Lecturer/ Assistant lecturer	26	30.5
	Instructor	5	5.8
Age group/ years	<40	32	37.6
	≥40	53	62.4
Mean age /years	45 ± 15.2		

Regarding satisfaction of the teaching staff, in the subscale of [Instructor-to-Student Interaction], participants were mainly satisfied with items of "students were somewhat passive in their interactions" 30 (35.3%), and unsatisfied with the points related to "quality of student work and students' motivation in online courses"39 (45.9%) and 40 (47.1) respectively.

Regarding Course Design/ Development/ Teaching, teachers were mainly satisfied with "Fairness of online final exams" 48 (56.5%), neutral in items of "students receive quality feedback," and "The time needed to develop an online session," with 45 (52.9%) and 43 (60.5%) respectively.
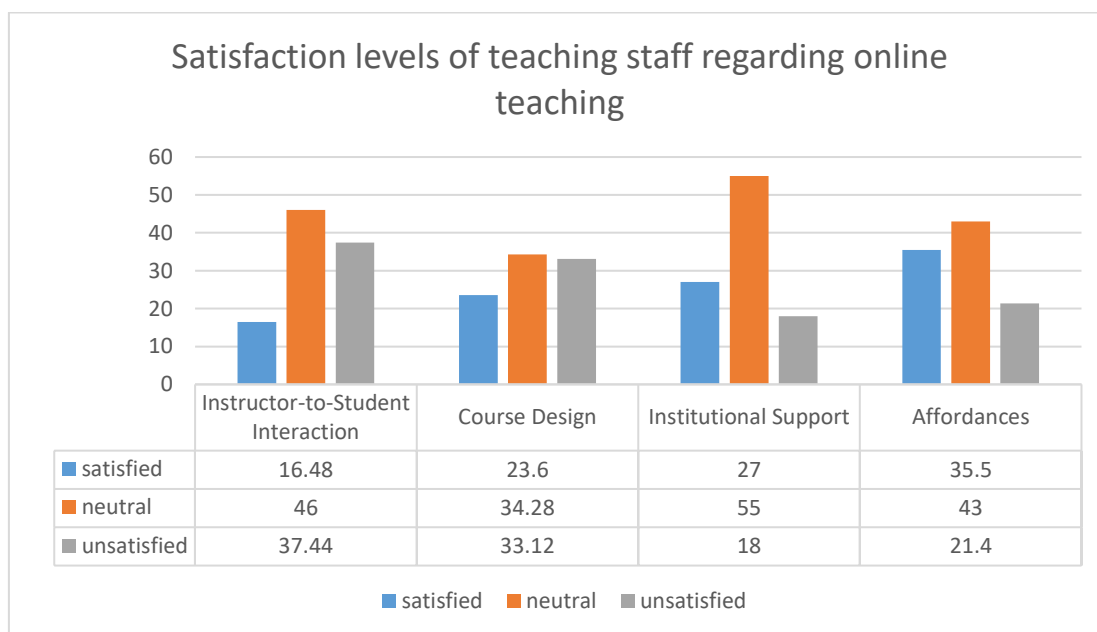
In the Institutional Support subscale, participants were satisfied mainly with "Given sufficient time to design and develop online courses" 28 (32.9%), and the other items received mainly neutral answers from the participants.

In the affordance subscale, participants agreed that "Students can access their online course from almost anywhere" 34 (28.2%), Table 2.

Table (2): Teaching staff answers regarding online teaching satisfaction

Items	Not satisfied N (%)	Neutral N (%)	Satisfied N (%)
Instructor-to-Student Interaction			
Satisfaction with the quality of student work in online courses	39 (45.9)	36 (42.4)	10 (11.8)
Satisfaction with students' motivation in online courses	40 (47.1)	35 (41.2)	10 (11.8)
Online students are somewhat passive in their interactions	19 (22.4)	36 (42.4)	30 (35.3)
Interactions with online students	27 (31.8)	45 (52.9)	13 (15.3)
Online students' participation.	34 (40)	44 (51)	7 (8)
Course Design/Development/Teaching			
Online students receive quality feedback.	25 (29.4)	45 (52.9)	15 (17.4)
The time needed to develop an online session.	14 (16.5)	43 (60.5)	28 (32.9)
Assessment of students in online courses.	41 (48.2)	32 (37.6)	12 (14.1)
The content quality of online courses	14 (16.5)	39 (45.9)	32 (37.6)
Fairness of online final exams	48 (56.5)	25 (29.4)	12 (14.1)
Institutional Support			
Teachers are given sufficient time to design and develop online courses	18 (21.2)	39 (45.9)	28 (32.9)
The institution provides the necessary technology tools (equipment, internet, Google Classroom platform, and software) for teaching online	15 (17.6)	43 (50.6)	27 (31.8)
The need for training to prepare for teaching online has been met.	12 (14.1)	50 (58.8)	23 (27.1)
The institution provides fair compensation or incentives for teaching online (thanks and recognition letters)	18 (21.2)	48 (65.5)	19 (21.2)
Online teaching policies that my institution has implemented.	14 (16.5)	53 (62.4)	18 (21.2)
Affordances			
Convenience with the online learning environment.	22 (25.9)	49 (57.6)	14 (16.5)
Online courses provide a flexible learning environment	15 (17.6)	39 (45.9)	31 (36.5)
Online courses allow students to access a wide range of resources	34 (28.2)	24 (40)	27 (31.8)
Online teaching allows us to reach a more diverse student population.	17 (20)	37 (43.5)	31 (36.5)
Students can access their online courses from almost anywhere.	13 (15.3)	24 (28.2)	48 (56.5)

The total satisfaction level of participants in this study was 25.6%, considered low; participants were mainly neutral regarding all four subscales. The distribution of satisfaction levels of each subscale is illustrated in Figure (1)

Satisfaction levels of teaching staff regarding online teaching

	Instructor-to-Student Interaction	Course Design	Institutional Support	Affordances
satisfied	16.48	23.6	27	35.5
neutral	46	34.28	55	43
unsatisfied	37.44	33.12	18	21.4

Figure (1): satisfaction level of teaching staff regarding online teaching

The total satisfaction score given by the participants was (0.98), **Cronbach's alpha** of each item was calculated, and the highest score (1) was given to the items of affordance questions.

Table (3): Mean scores and standard deviations for scale items (n=85)

Variables	Number of items	Cronbach's alpha	Mean score	± SD
Instructor-to-Student Interaction	5	0.71	0.79	0.46
Course Design/Development/Teaching	5	0.59	0.89	0.43
Institutional Support	5	0.72	1	0.45
Affordances	5	0.71	1.1	0.49
Total score		0.98		0.35

Discussion:

Faculty members in medical colleges face multiple pressures, including expanding clinical productivity and at the same time, providing quality basic and clinical education to medical students as well as residents (6). Medical education is an increasing concern for medical colleges and teaching hospitals worldwide. Hence, to develop faculties and provide high-quality training, medical institutions established focusing on educators' satisfaction with the teaching process and understanding how this affects the overall outcomes.

Participating teaching staff in the current study were generally unsatisfied with their online teaching experience. Undoubtedly, some teachers reported more satisfaction with certain items related to electronic teaching than others, comparable to many previous studies (6,7). The interpretation of the descriptive results showed that the scale related to "Instructor-to-Student Interaction" had the lowest mean score. These results could be attributed to the nature of this new online learning environment, where educators need many skills to master interactive learning environments. Many college teachers were unfamiliar with more contemporary media that create interaction and promote student motivation and engagement, and therefore, online teaching was perceived as a work burden (8), not to forget that the time home quarantine due to the COVID-19 pandemic caused huge stress for people from different occupations not only college teachers and this stress was affecting the overall individual satisfaction regarding every point in the daily life (9). Results showed that "staff satisfaction with institutional support" was fair. Sufficient and timely institutional support through training, recommendation and recognition letters, logistic support, etc., becomes an important component of staff satisfaction, learning outcomes, and the quality of medical education in qualified universities.

"Affordances of these technologies" earned the highest satisfaction score. However, within this subscale, participants were unsatisfied when asked if this technology allowed students to access a wide range of resources, which can be explained as the students provided with these vast online technologies may not utilize them properly. That is why teachers and students had to receive sufficient guidance to master how online tools can improve communication, interaction, and learning. The findings of the last two subscales agree with an Indian study in which participants were not satisfied with their institutional support, mainly with salary, disparity in college infrastructure, blocked promotional avenues, and limited support (10). On the other hand, a Pakistani study found that public sector faculty preferred online teaching and reported receiving adequate resources and being satisfied with regular training and workshops, highlighting the positive influence of job security and timely salary payments on productivity (11).

According to the above findings, if the medical college is committed to delivering high-quality teaching and instructions, then it will be vital for administrators to obtain and develop qualified teachers who are motivated to teach face-to-face as well as online, are satisfied with the teaching environment, and can deliver effective programs according to learning objectives (12).

Some limitations of this study need to be clarified. The data was self-reported; therefore, the results measured perceived levels and personal opinions of participant satisfaction. The sample consisted of almost half of the teaching staff of this college. The study findings should be interpreted cautiously as they may not be generalizable to teachers who didn't receive the questionnaire or refused to participate. In the future, the same scale can be used to study faculties in other university colleges that would recruit a larger sample size.

Conclusions: The satisfaction of teaching staff with online learning during the COVID-19 pandemic was generally low, especially regarding student–instructor interaction and course design and development.

Authors' contributions:
Luma K Mohammed: data collection, statistical analysis, editing
Methaq H Al-Ogaily: Study design, writing, editing

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رضا التدريسيين الطبيين عن التعليم عبر الانترنت خلال جائحة كورونا

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الملخص:

الخلفية: قد يؤدي عدم رضا التدريسيين في كليات الطب إلى ترك ممارسة التدريس حيث يصعب في كثير من الأحيان استبدال أولئك الذين غادروا. بالإضافة إلى ذلك، قد يكون عدم رضا أعضاء هيئة التدريس مؤشرًا على الجودة السلبية للمؤسسات التعليمية / الجامعية.

هدف الدراسة: تقييم رضا أعضاء هيئة التدريس عن التعلم عبر الإنترنت أثناء جائحة كورونا في جامعة النهرين / كلية الطب، بغداد / العراق.

المنهجية: تضمنت دراسة مقطعية عينة ملائمة من 50٪ من أعضاء هيئة التدريس الذين شاركوا في العام الدراسي الاكتروني 2020-2021. تم أخذ استبيان رضا أعضاء هيئة التدريس من دراسة سابقة، والتي تستند إلى استبيان تم التحقق منه لاستبيان الرضا الذي يحتوي على أربع فئات رئيسية: التفاعل، وتخطيط المدرب، والدعم المؤسسي، والقدرة على تحمل التكاليف.

النتائج: اشتملت الدراسة على 85 مدرسًا بكلية الطب من جميع الأقسام. بلغ مستوى الرضا الإجمالي للمشاركين في هذه الدراسة 25.6٪ وهي نسبة منخفضة. كانت درجة الرضا الإجمالية التي أعطاها المشاركون (0.98)، وأعطيت أعلى درجة (1) لعناصر أسئلة تحمل التكاليف وأدنى درجة أعطيت للتفاعل بين الطالب والمعلم وتصميم الفصل الدراسي وتطويره (0.79 ، 0.89) على التوالي.

الاستنتاج: كان رضا أعضاء هيئة التدريس عن التعلم عبر الإنترنت خلال جائحة كورونا منخفضًا بشكل عام، خاصة فيما يتعلق بالتفاعل بين الطالب والمعلم وتصميم الفصل الدراسي وتطويره.

الكلمات المفتاحية: التعلم الإلكتروني، التعليم الطبي،التفاعل, الأوبئة، رضا العاملين.