Students Satisfaction with Online Learning in Iraqi Medical College during COVID-19 Pandemic

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ABSTRACT

Background :Technology-based e-learning encompasses the use of the internet and other important technologies to produce materials for learning, teach learners, and also regulate courses in an organization .The shift towards online education during the pandemic of COVID19 has led many studies to focus on perceived learning outcomes and student satisfaction in this new learning environment.

Objectives: This article aimed to study the students' satisfaction concerning the online learning in a sample of Al-Nahrain College of medicine, Baghdad/Iraq in the academic year 2020-2021.

Methodology: a cross sectional study recruited 50% of all the college students (n=696) from all grades done on a sample of medical students in Al-Nahrain college of medicine. The data collected was collected online using google form.

Results: the study involved 696 students from all grades, 67% were females, (47.5%) of them participated in four online courses, (63%) of the students attending the online courses using smart mobile. the mean satisfaction scores were poor concerning course material, and electronic exams (41.7%, 43%) respectively.

Conclusion: Medical students were generally unsatisfied concerning electronic learning in the past four courses.

Key words: Electronic learning, Pandemic, Student satisfaction, Medical students

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INTRODUCTION

Internet has become one of the vital ways to make available resources for research and learning for both teachers and students to share and acquire information. Technology-based e-learning encompasses the use of the internet and other important technologies to produce materials for learning, teach learners, and also regulate courses in an organization [1]. With the pandemic COVID-19 it becomes mandatory to use this information and communication technology as a complement to traditional classrooms, online learning or mixing the two modes. So e-Learning now has been transformed from a fully-online course to using technology to deliver part or all of a course independent of permanent time and place [2]. Distance learning might not be the best choice for every student but the list of advantages seems to outweigh the list of disadvantages [1,3].

Advantages of distance learning

Students from anywhere anytime can join the course and start learning.

Saving significant amount of money.

Students do not have to commute in crowded streets.

Saving time, there's no time wasted in going to and from college [4].

Disadvantages of distance learning

High Chances of Distraction, the chances of getting distracted and losing track of deadlines are high.

Complicated Technology, any student with online learning programs needs to invest in a range of equipment including computer and stable internet connection [5].

This overdependence on technology is a major drawback to distance learning. In case of any software or hardware

malfunction, the class session will come to a standstill, something that can interrupt the learning process. Moreover, the complicated nature of the technology used in online learning only limits online education to students who are computer and tech savvy.

No Social Interaction, The lack of physical interaction in the education process may cause many problems, such as a great degree of flaming and isolation.

Difficulty Staying in Contact with Instructors [5].

The learning process cannot reach its full potential until students practice what they learn. Sometimes, online content is all theoretical and does not let students practice and learn effectively. Students feel that lack of community, technical problems, and difficulties in understanding instructional goals are the major barriers for online learning [6].

Student satisfaction

Satisfaction can be interpreted as "a concept that reflects outcomes and reciprocity that occur between students and an instructor" [1]. Learner satisfaction is one of the important bases for assessing the success and effectiveness of a course. However, currently, there are not many kind of research that can point out the criteria as a basis for evaluation of satisfaction. Some recent studies have suggested some evaluation criterion. The feel of student's satisfaction and their performance in an online collaborative learning is the key factor in determining whether online learning model can be sustainably used or not [7].

Study objectives

Study the students' satisfaction concerning the electronic courses and exams.

Study the students' opinions concerning the advantages of e-learning like saving time, money and resources.

METHODOLOGY

Study design

Cross sectional study.

Study setting

The study was carried out online on a sample of medical students at Al-Nahrain college of medicine, Baghdad/Iraq during May-August 2021 to asset the students' satisfaction concerning the online learning that started in 2020 due to the COVID 19 pandemic and continued till the present time. The college shifted suddenly into total online teaching during the lock down in the second course of academic year 2019-2020, then the college adapted the integrated learning system in the academic year 2020-2021. Keeping the theoretical lectures and final exams electronically using google suite services while the practical sessions were given on campus later on.

Sampling and data collection: the total number of student in the academic year 2020-2021 was (1391) students [8], a convenient sample of 50% of all the undergraduate

students from first grade till sixth grade were invited to fill an online questionnaire through the (www.googleform. com). The data collectors were students from the fourth grade who distributed and posted the link of the google form with brief description of the research purposes through the social media of their colleagues, (696) students completed structured questionnaire arranged by the researchers using questions and students opinions from different published articles(6,7,11) in the medical education journals containing the following sections after a brief introduction to the study:

The first section include demographic and academic data of the students: name (optional), grade, gender, the number of courses the student participated in, the devices that were used (mobile, computer or tablet) and whether the students purchased additional devices to access the online course, as the time is precious in the medical student life, researchers added a question concerning the time saving property of the online learning.

The second section aimed to identify the students satisfaction with the online course material using Likert scale (satisfied/dissatisfied or neutral/I don't know) including the overall experience with the online learning, the content and clarity of the presented material either lectured or practical lab and the online clinical sessions and the internet connection speed they need to reach and download the course material, compared to the on campus lectures, the interaction with the lecturer/doctors and with their colleagues, their ability to focus during the lectures and accessibility to give feedback and the usefulness of the end of lecture quiz.

The third section: acknowledged the students satisfaction with the online exams (midterm and final) using Likert scale (satisfied/dissatisfied or neutral/I don't know), that include the overall online exams experience, the ability of the online exam content to cover the material that was taken during the online course, the environment of the online exams which had three aspects:

The platform of the exam and its clarity in displaying the questions.

The time of the exam.

The cooperation with the examiner by google meet/classroom and their action when a problem with the internet connection happens.

The questionnaire also included the stratification of having the final exams of an online course on campus.

Scoring

Each statement in the satisfaction section of the questionnaire was given three options to answer:

Is don't know=0

Dissatisfied=1

Neutral=2

Stratified=3

Then the percent of satisfied students of each item was calculated by dividing the positive answers (satisfied)/ the total answers *100%.

The mean satisfaction score was calculated by the summations of all the items scores divided by the number of those items.

The interpretation was as the following:

Less than 50% considered as poor satisfaction.

50-75% considered fair satisfaction.

More than 75% is a good satisfaction.

Ethical consideration

The research proposal was presented and accepted by the scientific committee of department of community and family community of college of medicine. The purpose and details of the study was clarified to the candidates in the first page of the google form sent to them and the students were free to participate and answer.

Statistical analysis

Statistical analysis using excel and the Statistical Package for Social Science (SPSS 20).

Descriptive statistics (frequencies, percent, and mean) for demographic data and satisfaction scores. Analytic statistics using ANOVA test.

RESULTS

This study recruited (696) students of Al-Nahrain Medical College who answered a questions concerning their satisfaction about online learning during the COVID-19 pandemic period. Students participated from all college grades, mainly (29%) from the 4th grade. Among those students: (466) were females. Concerning number of courses: (47.5%) of them participated in four courses. Students in this study used different devises to

join the course, (31%) had attended the online course through home computer , while (63%) attending the online courses using smart mobile. (50%) of participated students need to purchase resources to attend online courses (like smart phones, laptops, ear pieces etc...), while (50%) of them already have their resources. Also, (69.4%) of students believed that online courses save more time (Table 1).

Course material satisfaction

(31.9%) of medical students were satisfied about the overall online courses experience, the least score was towards giving practical sessions and lab online (16.3%). In general , poor mean satisfaction score (41.7%) were found for all the items of course material and contents (Table 2).

Online exams

(33.8%) of medical students were satisfied about overall online exams experience, clarity of the exams and interaction of the exam committee had the highest satisfaction score.in general, the mean satisfaction score was 43% which is also considered a poor satisfaction score (Table 3).

DISCUSSION

An assessment of student satisfaction with e-learning has become the new normal in many medical and health science schools around the world, due to COVID-19 pandemic . Satisfaction with online learning is a significant aspect of promoting successful educational processes [9]. This study aimed to assess student satisfaction with online learning during this pandemic.

In this study, among 696 students, 438 students (63%) students used a smart phone to attend lectures and exams. Using smart phone have many advantages but more disadvantages, advantages could be inferred as the students have already phones and can use it any

Table 1: characteristic of study sample.

Variable		n	%	Total
Gender	males	230	33	
	females	466	67	
Grade	1st grade	62	9	
	2nd grade	76	11	
	3rd grade	187	27	
	4th grade	202	29	
	5th grade	132	19	
	6th grade	34	5	
Number of courses	2	222	31.9	696 (100%)
	3	143	20.6	
	4	330	47.5	
Devises used durin the course	Smart phones	438	63	
	Tablets	330	47.5	
	Home computer	215	31	
Purchase new device	YES	438	50	
	NO	438	50	
Saving time	YES	483	69.4	
	NO	212	30.6	
P value<0.003				

Table 2: Satisfaction of medical students about material and interaction during the online courses.

Characteristics	Satisfied	Dissatisfied	I don't know	Satisfaction score	Total
The overall experience	222	137	100	31.90%	
The clarity of presentation of course topics	348	301	47	50%	
The online interaction with the instructor/ teacher	278	336	82	40%	
The online teaching of clinical sessions or practical lab	174	405	117	25%	696
Keep attention and focus during the lecture	313	300	83	45%	
Quizzes at the end of online lecture	343	296	57	49.40%	
The online interaction you had with other students in this course	261	395	40	37.50%	
Internet problems	51	384	297	7%	

Table 3: Mean satisfaction score was 43% which is also considered a poor satisfaction score.

Characteristic	Satisfied	Dissatisfied	I don't know	Satisfaction score
The overall exam experience	306	300	90	44%
The time of exam was enough	285	335	76	41%
The format/ clarity of the exam form	348	298	50	50%
Taking the exam at collage after an online course	278	348	70	40%
The action taken by the exam committee when facing Internet problem	278	356	62	40%

place and anytime. But using those phones had caused many technical problems during the course like difficult downloading of lectures and attending the online exams, while students using home computers would be more comfortable in using different applications of google suite services and other online techniques.

This study reported that half of the participated students need to purchase new devices to attend online courses (like smart phone, laptops, ear pieces etc.), this put a burden on some students and their families due to high cost of those devices. This is agreed with a multinational study in 2020 done on different students in UAE, Ukraine and Portugal to assess their satisfaction concerning e-learning showed a near results, most of the students used smart phone for studying , reported that online study had saved time for them , this could be explained as the sit in home and learn saved them from traffic jams , the preparation time before going to university , in addition to multitasking behavior of many students during the online lecture . Almost half of the UAE students had similar reasons for enrolling in electronic courses including study time, saving time and working at their own pace [10]. This saved time could be used for doing researches, digging more resources and finishing homework's that was postponed usually till the final exams.

Student satisfaction with e-learning is related to several factors, such as content, learning community, learning environment, and electronic exams. This study revealed that (26%) of the students were satisfied about the content of the course, while (61%) were dissatisfied; students did not consider E-learning useful for developing clinical, practical and technical skills and did not favor E-learning to classroom teaching that based on level of interest, focus and lack of distractions. In comparison with other researches, the majority of students have the same vision. As in a cross-sectional, web-based study done among medical students from King Abdulaziz University, 2020 in which most students accepted that clinical teaching and practical sessions are the most challenging learning outcome during the

electronic learning courses and it need more training of the students and tutors, better designing electronic courses, more and more interaction, and for sure motivation [11].

We can honestly see in this study that students satisfaction level about material and interaction during the online courses was poor; (only 31.9% were satisfied) comparing it with the high level of students' satisfaction in previous studies ; like a study done in Sultan Qaboos university, Oman to assess the student satisfaction concerning distance learning during the pandemic, the satisfaction of students was 85% which is considered a good satisfaction score [12].

The students were almost satisfied with the accessibility of the instructor to answer questions or give feedback within the E-lecture (45%) but still less than the acceptable level as same as many universities in Iraq; for instance the satisfaction in Duhok Polytechnic University was also poor, The students responded to questions related to material of courses, students' interactions, using available e-learning tools, the results showed 34.92% of participant students satisfied with e-learning, this means that 65.08% of those students preferred face-to-face learning (in class) [13].

The least score was towards giving practical sessions nearly (84%)of the students considered clinics and laboratory environment as more effective in acquiring clinical and laboratory skills than E-learning ,this is similar to the opinions of health science students in Pakistan, 60% of them considered that clinical and practical skills are best learned in clinics and laboratories in campus. More than one third of those students preferred classroom teaching and 34% of the students did not feel confident enough to take final exams after electronic learning sessions [14].

In this study , more than half of the students are satisfied about cooperation of the lecturers in online learning, this cooperation was in shape of perceptions of feedback, student encouragement, and the instructor being able to

help students identify problem areas during the course. While (35%) of the students were dissatisfied. Although the positive percentage of online learning, there is a significant proportion that is unsatisfied with the rate of cooperation and interaction between medical students and their professors [15].

Several reasons may account for that noticeable decrease in instructor-student interaction. One possibility is that students do not enjoy the same amount, time or type of communications during the course as the face-to-face learning. Also, student's expectations and instructor interaction are most likely based on past experiences formulated in face-to-face settings through previous years of studding [16]. Even though this little amount of interaction may have been adequate to some of them to support their learning.

Surprisingly, this study found that students mostly were satisfied concerning quizzes at the end of online lecture, a high percentage believed that it is good may be it makes them obliged to attendance and focus. Also a large proportion was satisfied about the exam committee interaction during the final exams specially in solving instant problems. It's worth to mention at this point, regarding the trustiness of students answers and feedback, reviewed courses and students' responses were in some points mismatched. This means that student feedback may not entirely considered reliable in the learning process, and it may need further assessment in different tools and methods.

Limitation of the study
Limited infrastructure in the college and the pressure of the pandemic and the medical study itself may affect the satisfaction level of the students.

Strength of the study
To the extent of our knowledge, this is the first study assessing satisfaction of medical students in our country; the large sample size covering 50% of students gave our results some more representative criteria.

CONCLUSION

Most of the students used smart phones and tablets and the least percentage using computer to access the online courses, half of them had to purchase devices to attend the courses, and majority believed that E-learning saved their time while the least believed not. The satisfaction percent of students concerning the course material, teaching and on line exam was poor, mainly towards content, student interaction with each other and with the lecturers, teaching practical session online, clarity and time given to the exams.

RECOMMENDATIONS

Obtaining feedback from students is an essential part of identifying what has worked and where improvements could be made in the future.

Improving the quality of the internet by companies or providing free internet lines for students during the E-learning period.

Practical labs and clinical sessions must be taken practically and not electronically to ensure understanding and application of the practical material.

Providing extra time outside education, such as discussions between the instructor and students, to understand the requirements and problems of students, or improving the quality of e-learning through new ideas they propose.

Including Facebook, Twitter, or other forms of social media in eLearning courses, may assist students in increasing their social presence in the respective course. When online instructors enhance students' social presence in courses, a positive relationship among learning outcomes are produced.

Include professional development sessions at a faculty lounge or implement seminars to routinely exchange ideas and share experiences between instructors.

CONFLICT OF INTEREST

None.

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REFFERENCES

1. Parkes M, Stein S, Reading C. Student preparedness for university e-learning environments. Internet Higher Educ 2015; 25:1–10.

2. Baber H. Determinants of students' perceived learning outcome and satisfaction in online learning during the pandemic of COVID-19. J Educ E-learning Res 2020; 7:285-292.

3. Vu NN. An investigation of Vietnamese students' learning styles in online language learning. Tạp chí Khoa Học 2016; 25.

4. Anderson T. Theory and practice of online learning. 2nd Edn. Edmonton, AB: AU Press. Ontario Ministry of Education 2001; 419–439.

5. https://surejob.in/advantages-and-disadvantages-of-distance-education.html

6. Brazendale K, Beets MW, Weaver RG. Understanding differences between summer vs. school obesogenic behaviors of children: The structured days hypothesis. Int J Behav Nutr Phys Act 2017; 14:100.

7. Song L, Singleton E. Hill S, et al. Improving online learning: Student perceptions of useful and challenging characteristics. Internet Higher Educ 2004; 7:59.

8. www.colmed-alnahrain.edu.iq

9. Wang YS. Assessment of learner satisfaction with

asynchronous electronic learning systems. Information Management 2003; 41:75-86.

10. Fidalgo P, Thormann J, Kulyk O, et al. Students' perceptions on distance education: A multinational study. Int J Educ Technol High Educ 2020; 17:18.

11. Ibrahim NK, Al Raddadi R, AlDarmasi M, et al. Medical students' acceptance and perceptions of e-learning during the Covid-19 closure time in King Abdulaziz University, Jeddah. J Infect Public Health 2021; 14:17-23.

12. Al Musawi AS, Abdelraheem AY. E-learning at Sultan Qaboos University: Status and future. Br J Educ Technol 2004; 35:363.

13. Ali SH, Salih SO, Mohammed AI, et al. Evaluating student's feedback towards teachers performance on E-learning. Int J Sci Bus 2021; 5:1.

14. Haque MM, Jahan Y, Khair Z, et al. Perceptions about telemedicine among populations with chronic diseases amid COVID-19: Data from a cross-sectional survey. Int J Environ Res Public Health 2022; 19:4250.

15. Dziuban C, Moskal P, Thompson, et al. Student satisfaction with online learning: Is it a psychological contract? Online Learning 2015; 19.

16. Wieser D, Seeler JM, Sixl-Daniell K, et al. Online students' expectations differ: The advantage of assessing students' expectations in online education. In Proceedings of the 3rd International Conference on Higher Education Advances 2017; 1113-1120.