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ORIGINAL ARTICLE

Student Satisfaction with Online Teaching and Assessment during Covid 19

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ABSTRACT

Aim: To assess the student's satisfaction with online teaching and assessment during the Covid-19 pandemic**.**
Methodology: This cross-sectional squestionnaire based study was performed across six Medical and Dental colleges of Lahore. A questionnaire consisting of thirty questions was distributed through google forms. A total of (N = 460) students responded, and the results were presented in percentage frequency.
Result: The present study revealed that 46% of the students believed that e-learning tool is not adequatefor basic and clinical sciences.The learning outcomes (35.1%) and objectives (33.8%) were not achieved through e-learning. The majority of the students agreed thatproblem-based learning is an effective way of teaching (37.7%). Online lectures were difficult to understand (35.1%). The students were not satisfied (23.4%) with the online assessment.The technical issues affected the performance of the students.
Practical implication: This sudy identified different challenges of online teaching.Online education is a valuable learning tool and the online learning approach has been successfully integrated worldwide with conventional teaching of the curriculum. In order to keep up with the contemporary methods and with the introduction of newer technology and tools it is imperative that our teaching should incorporate e-learning strategies and curricula designed to match it. The policymakers and universities should enable teachers and students with proper training and facilities in this age of technological advancement..
Conclusion: Our study revealed that students were not satisfied withonline teaching however, they were indecisive about online assessment methodology. The students believed that lack of infrastructure and inadequate learning tools affected their performance..
Keywords: E-learning, online assessment, COVID-19, e-learning, problem based learning, learning management system

INTRODUCTION

The COVID-19 pandemic started two years ago was a disastrous situation that influenced the public physical and mental health. Online learning has turned into a valuable tool for medical and dental education programs. In order to stop the further spread of infection, different colleges started online teaching. There are many established benefits of online educationthat include appropriate content delivery,efficiency, and standardization[1].

Some medical institutes provided online lectures through digital platforms, including Moodle, Google classroom andpre-recorded lectures posted on websitesduring the lockdown. Most of Pakistan's institutes were notfamiliar with use of a virtual platform before the pandemic. Conventional teaching was impossible due to lockdown, so the institutes had to offer online teaching to compensate for the loss of time and course completiom[2].

Although online teaching seemed to be a valuable solution during the pandemic, students' satisfaction and proper assessment areessentialfor effective learning. Students' satisfaction is associated with satisfactory learning experiences and its primary goal is to provide the students with a comprehensivelearning experience. Online teaching satisfaction is a multidimensional field and includes many factors such as feedback, interactive discussion with students, technical backup, and teacher's didactic and communication skills[3,4].

There are three online learning theories that deal with the satisfaction level of students; behaviourist, cognitive constructivist, and social constructivist.. The students gain more knowledge when they socially interact with each other. They are engaged in multiple activities and get productive feedback. Student and teacher interaction plays a substantial role in satisfaction. Previous studies have shown that students' social interaction and face-to-face communication in the physical classroom results in the students' satisfaction. The difference in the expectation and experiences of the student results in a decrease in the satisfaction level[3,5].

The researchers have found that competent faculty members should develop the design and development of online

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teaching methods according to needs of their students[6]. If properly designed they could increase the satisfaction level of the students. Institutions should also facilitate the faculty and students to achieve online teaching and learning goals. Online learning has transformed the responsibilities of a teacher, and they have become a facilitator, technical experts, and specialist in curriculum design. The delivery of online lectures has resulted in the innovation of different methods to improve learning[7,8].

Online education is successful if the institutions provide adequate facilities and technical support. However, it is more challenging if there are limited resources and technical staff of online teaching[9]. Lack of infrastructure and internet-related issues may obstructstudents' active learning process. The students may find various distractions when taking lectures from home as limited home space, distractions and different household activities[10].

The online learning activities may induce self-directed learning drive and research culture in students. Students use social media as a source of information and its use for teaching has improved the collaboration and contact between the students and the teachers, and students feel more satisfied when their queries are resolved instantly. Quick and efficient feedback of students' assignments by the teachers can boost the students learning process[11,12].

Assessment is a fundamental part of effective learning. Formative or Summative Assessment in the online learning perspective embraces various features due to the diverse interaction between teachers and students[13]. The active use of online formative assessment can improve the studentsdidactic experiences and improve the outcomes. They can collaboratively identify the learning requirements and design different approaches to encounter the problems. It can provide extended prospects to observe, document, and assess the students' accomplishments and progress. Hence formative feedback can safely be given in a real time environment. It can play an essential role in improving learning by producing an enriched educational learning environment. The students will be motivated to actively participate and enhance their studying experience[14].

The reliability and validity of the online assessment are essential to meet the students' learning outcomes assessment. There are many formative and summative methods, such as online MCQ, SEQ, scenario-based questions, assignments, and viva and discussion forums. Feedback on the performance and assessment of skill development is a challenging task[15]. The use of a Learning Management System(LMS) provides a better opportunity to give feedback to the students immediately after assessment activity completion.It should be ideally highly reliable and evidence-based.[16] Proctoring during online examinations is essential to deter students from using unfair means to pass their tests and assessments in certain cases.

In the current scenario, online teaching being the only mode of assessment possible, the reliability and feasibility issues must be considered, especially during assesment. Effective online teaching strategies should be developed to simulate the classroom environment and improve students' satisfaction levels. This study was designed to determine the students' satisfaction with online teaching and assessment.

MATERIALS AND METHODS

A cross-sectional study was conducted atsix Medical and Dental colleges in Lahore.A total (n=470) of Medical and Dental students participated in this study. An online questionnaire in the form of Google Doc was developed and distributed through emails and what's app groups. A pilot study was run on 100 students to test the validity of the questionnaire andthe questions were modified accordingly. It was composed of thirty close-ended questions divided into three parts.The first part consisted of 9 questions relating to the student's satisfaction. The second part contained nine questions relating to the student's satisfaction with online teaching. The third part included six questions about technical issues such as the internet and technological problems. Institutional support and proctoring during the examination constituted the last segment. A Likert scale (Strongly agree= 1, agree 2, neutral 3, strongly disagree 4 and disagree 5) was used.Cronbach alpha (0.9) was calculated to ensure validity. Informed consent was taken at the beginning of the questionnaire and items were based on the Likert scale. Data were analysed by SPSS version 23 and presented as percentage frequencies.

RESULTS

The results of the present study revealed that the majority of the students (46%) strongly disagreed that the e-learning toolsare effective in learning of clinical subjects. In basic sciences, most of the students (30%) opposed the idea that e-learning provides a better understanding of basic sciences subjects (Table 1). There was strong disagreement about the statement that the learning objectives (33.8%) and outcomes were achieved through online teaching programmes (Table 1). A similar trend was observed regarding the efficiency (43.6%) of e-learning (Table 1).The students (37.7%) believed that problem-based learning is a suitableonline teaching method(Table 1).The majority of the students disagreed (36.2%) that online lectures and practical demonstrations were easier to understand thanconventional classroom teaching(Table 1).The students (44%) strongly agreed that the provision of reading material and retrievable PowerPoint lectures and presentations enhancedtheir understanding (Table 1).There was disagreement (35.1%) upon the better understanding of online lecturesas compared to conventional classroom lectures (Table 1). There was strong agreement (36.8%) that the knowledge provided by the teacher was sufficient to understand the lecture (Table 1).

The students (30.2%) disagreed that online formative assessment is better than conventional methods like class tests, term exams, etc., (Table 2). Most students agreed (34.9%) that online multiple-choice questions are most effective for e-learning(Table 2).They disagreed (35.5%) that short essay questions attempted online take equal time compared with the written examinations(Table 2). Most students disagreed (27.2%) that online tests are more manageable than on-campus examinations(Table 2). They disagreed(24.3%) that the evaluation and results of e-learning based assessment coincide with their expectations(Table 2). They agreed (36.6%) that more time was needed to solve the online questions (Table 2). The students were of the opinion that unfair means are more (36%) commonly practiced during online examinations. Viva may be a good way of online assessment, whereas the students disagreed (25.7%) that the assignment-based evaluation is a good substitute for conventionalassesmentmethods (Table 2).

The majority of the students agreed that internet-related problems(40.2%) like typing speed (39.6%), computer skills, and internet-related issues (53.6%) affected their performance during the online examination. The students agreed (38.1%) that there are more chances of using unfair means duringonline tests, so proctoring is essential(Table 3). Most of the students were of neutral opinion (35.5%) that the online system provided by their institute was secure (Table 3). Overall the students were not satisfied (3.3 ± 0.07) with the online lectures but they were neutral (2.7± 0.54) about the online assessment methods (Table 4).

Student satisfaction with online teaching

Table 1: Statistical data of Student satisfaction with E-Learning/online teaching

Question	Strongly agree%	Agree%	Neutral%	Disagree%	Strongly Disagree %
Satisfaction in clinical subjects	1.5	6.6	11.3	34.7	46
Satisfactionin basic sciences	4.9	23.4	24.3	30.2	17.2
Completion of Learningobjectives	2.8	18.5	27.9	33.8	17
Completion of Learning outcomes	3.2	11.7	21.1	35.1	28.9
Efficiency of E-learning	2.6	10.4	19.8	43.6	23
Satisfaction with PBL	7.2	37.7	30.2	14	10.9
Satisfaction Online Lecture delivery	4	10.9	19.1	36.2	29.8
Satisfaction with Online Practical	4.7	18.5	15.1	31.7	30
Satisfactory Lectures/presentations	13.8	33.2	25.5	16.2	11.3
Satisfaction with predistributed Lecture handouts / ppt	17.2	44	20.2	9.8	8.7
Satisfaction with Efficiency of e learning tools	5.7	12.6	23	35.1	23.6
SatisfactoryUnderstanding of Contentin E-learning	5.1	36.8	36.6	15.5	6

Table 2: Statistical data of Student satisfaction with E-Learning/online assessment

Question	Strongly agree%	Agree%	Neutral%	Disagree%	Strongly Disagree %
1.SatisfactoryFormative assessment	6.4	22.2	21.1	30.2	20.2
2.Effectiveness of Multiple choice based questions	11.3	34.9	24	17.4	12.3
3.EffectivenessShort essay questions	4.7	16.6	17	35.3	26.4
4. Effectiveness of Online verses on campus teaching	10.4	20.9	23.6	27.2	17.9
5.Effectiveness of Online evaluation and results	3.8	21.3	37	24.3	13.6
6.Satisfactory time based completion of learning activities	34	36.6	13.8	8.9	6.6
7.Use of Unfair means to pass	21.9	36	23.8	11.1	7.2
8.Effectiveness of Viva based assessments	9.8	30	24.7	20.9	14.7
9.Satisfaction with online Assignments	7.9	24.3	24	25.7	18.1

Table 3:Statistical data of the technical issues affecting the online performance of the students.

Question	Strongly agree%	Agree%	Neutral%	Disagree%	Strongly Disagree %
1.Internet issues	38.7	40.2	11.7	5.5	3.8
2.Typing speed	34.7	39.6	12.8	9.1	3.8
3.Internet service	53.6	30.9	6.8	5.1	3.6
4.Proctoring of student	10.9	38.1	37.2	8.3	5.5
5.Secure and tamper proof	8.1	30	36.8	16	9.1
6.Adequate Institutional support	5.1	32.3	35.5	16	11.1

Table 4: Mean and Stand deviation of student's online teaching and assessment satisfaction

	N	Mean	Standard deviation
Teaching satisfaction	470	3.3	0.07
Assessment satisfaction	470	2.7	0.54

DISCUSSION

The emergence of the Covid-19 pandemic resulted in convergence to online teaching worldwide in medical and dental undergraduate institutes. However, this transformation in teaching and learning requires a lot of expertise and technical support[18]. The students believed that adequate information could not be delivered through e-learning in basic sciences andclinical subjects (Table 1). The results of our study are inaccordance with Khalil et al. 2020; they stated that preclinical and basic science students were dissatisfied with e-learning.[19]Most of the students negatively responded to whether e-learning can efficiently meet the learning outcomes (Table 1). Our results are in accordance with a study conducted by Sarwar et al. which reported that students were dissatisfied with the statement that e-learning is better than on-campus learning[20].

Practical demonstrations and lectures delivered online are difficult to deliver and understand. Similar responses were observed by the researchers, who found 34.9% of the students disagreed with the statement that online lectures can efficiently deliver the knowledge compared to on-campus classes[20]. The students responded that problem-based learning is a good tool of online teaching (Table 1). Our results areconcomitant to the study byCastillo-Megchun, et al., where the students agreed on the effectiveness of problem-based learning as an effective online teaching strategy[21]. Similarly, most of the students responded that lecture handouts provide better understanding during online lectures; moreover, the knowledge provided by the teacher was sufficient to understand the topic. Khalil et al[19] found similar responses from the students who were satisfied with the online lectures.Another study conducted on students feedback regarding online learning revealed that majority of the students (38%) were not satisfied due to internet interruptions during online teaching[20].

The majority of students disagreed that formative assessment through an online system is better than class tests (Table 2). In contrast to our study, Baig et al reported that most students (45%) agreed that e-assessment is better than in-class assessment[21]. Most of the students responded that multiple-choice questions are the preferred way of online assessment (Table 2). Similar results were reported by Ranganath et al. that majority (54%) of the students agreed that multiple-choice questions are a good means of online assessment[22]. On the other hand the students were not satisfied with the assessment through short essay questions. The reason may be due to the difficulty in the time management for solving the questions and the students were not acclimatized with the online assessment tools[23].

There was strong agreement that the time limit for the online examination should be more due to technical issues such as internet problems, typing speed, etc. The students preferred viva-based online tests because they think there are more chances of using unfair means duringexaminations (Table 3). The students agreed that internet speed, errors, and typing speed adversely affect the students' performance.The examination system should be secure and tamper-proof, and the institute should provide adequate technical support (Table 3). Similarly,Qureshi et al reported that technical issues such as internet speed and errors arising there forth were the main drawbacks of online teaching and assesment[24]. However despite all these technical problems if the teaching institutes provide the adequate technical support these challenges can be resolved.

CONCLUSION

The majority of students were dissatisfied with online teaching as well as assessment methods. Moreover,Thelack of institutional supportandtechnical issuesmay be responsible for hindrance in the learning process.

Recommendations: Based on the results of this study, it is strongly recommended that there is a dire need for improvements in online teaching and assessment methodsfor the future. The technical issues should be resolved by the institutions to provide better facilities for online teaching and provide a conducible environment for student learning.

Conflict of interest: Nil

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