



Assessment of Teachers and Students Experiences on Online Teaching during COVID-19 Pandemic: A Case-Study at a University Dental Teaching Hospital

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

Article Information

DOI: 10.9734/JPRI/2021/v33i45A32709

Editor(s):

(1) Dr. Begum Rokeya, Bangladesh University of Health Sciences, Bangladesh.

(2) Dr. Mohamed Fawzy Ramadan Hassani, Zagazig University, Egypt.

Reviewers:

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(3) Aderemi Moses Adewale, Alvan Ikoku Federal College of Education, Nigeria.

Complete Peer review History: <https://www.sdiarticle4.com/review-history/74113>

Original Research Article

Received 23 August 2021

Accepted 23 September 2021

Published 27 September 2021

ABSTRACT

Background: COVID-19 disease is a global phenomenon that is exerting its influence on a lot more than just health sector. Colleges, Institutes, and Schools were also part of the lockdown that followed the outbreak. Educational institutes have shifted from classroom teaching to online teaching-learning platforms.

Aim: The study aimed to assess teachers' and students' experiences on online teaching during the COVID-19 pandemic at university dental teaching hospital Pune, India.

Methodology: The study design was a cross-sectional questionnaire-based study. The research setting was online. Eligibility Criteria of the study were the teaching staff of the College who had taken to online teaching and undergraduate students who had attended online classes. Custom-made questionnaire link using 'Google form' was sent to teachers and students through WhatsApp and E-mail.

Results: 63% of students and 90% of staff responded with the questionnaires. During COVID-19, 96.7% of teachers and 98.4% of students had used Zoom as an online teaching platform. 25.6% of teachers had experienced network issues as the main problem. 90% of staff did not prefer online

teaching over classroom teaching. 10% of teachers did prefer online teaching during the COVID-19 pandemic. 82.4% of students didn't prefer an online learning method. The most common difficulties faced by students were network issues.

Conclusion: Knowledge of teachers' and students' experiences on online teaching is important to overcome the issues faced by them. Teachers' opinions are vital for improvising and dealing with issues with online teaching. The result of this study can be used as a guide for improving effective online teaching.

Keywords: Online teaching; COVID-19, pandemic; and classroom teaching; teachers' experience; students' experience and network connectivity.

1. INTRODUCTION

COVID-19 disease is an epidemic that has spread across the countries and WHO has declared it a pandemic [1]. COVID-19 pandemic is first and foremost a health crisis [2]. Govt of India declared a complete lockdown of the country except emergency services to combat the spread of COVID-19 disease. Colleges, institutes, and schools were shut down as preventive measures against COVID-19 disease. Most of the educational institutes were facing problems with conducting lectures and completing the syllabus. During this phase, online teaching emerged as a lifesaver for students as well as teachers. Online teaching remained the mainstay of education during lockdown because of the COVID-19 pandemic [2,3]. Various online teaching platforms were available for interactions of students with the teachers e.g., Google Classroom, Google Meet, Zoom, YouTube, Skype, Microsoft team, and CISCO WebEx. Due to the COVID-19 pandemic, teachers and students all over the world had to adapt to online teaching and learning methods [2]. Teachers experienced a lot of anxiety and fear while taking online teaching [2] as many of them were new to the activity. They had to master the technical skill of online teaching through training or interacting with their peers. They had to additionally prepare for online assessment of students. Students, too, faced many challenges of adapting to online learning and the novelty of this experience.

This study aimed to assess teachers' and students' experiences on the online teaching and learning process through a questionnaire survey.

2. METHODS

2.1 Study Design and Population

The study design was a cross-sectional questionnaire-based study. The study setting

was online. Eligibility criteria of the study were the teaching staff of the college who had taken online classes for undergraduate students and the undergraduate students of the College who attended online classes during the COVID-19 pandemic.

2.2 Survey Instrument and Data Analysis

Custom-made questionnaires comprising of 10 questions each were developed for teachers' and students' experiences about online teaching and learning during the COVID-19 pandemic. Face and content validity was carried out for the custom-made questionnaires. The questionnaires were distributed to a panel of 6 subject experts. The content validity ratio for each question was more than 0.99 (minimum requirement). Thus all ten questions were included.

The validity, reliability, internal consistency was tested by using Cronbach's alphas. Perfect test-retest reliability was found with ICC was 0.89 and Cronbach's alphas were 0.88.

Questionnaires were distributed among a sample of 254 students and 101 staff which was calculated by keeping a margin of error at 5%, confidence interval of 95%, and 60% response. Considering the response rate, questionnaires were distributed to all the staff and students. To preserve anonymity, the gender and identity of participants were not disclosed. The results were analyzed and compiled with based on their responses. Analysis of data was done in the form of numbers and percentages.

3. RESULTS

The online study was conducted from the period of March 2020 to August 2020. 63% of students and 90% of staff responded to the questionnaires. 80% of teachers and 90.4% of students were not having any experience of the

online teaching-learning process before the COVID-19 pandemic.

During the outbreak of COVID-19, 92.2% of teachers were aware of Zoom an online teaching platform (Fig. 1).

96.7% of teachers had used Zoom an online teaching platform (Fig. 2).

84.4% of staffs had taken more than 10 online lectures for undergraduate students.

During the period of the COVID-19 outbreak, 89.6% of students were aware of Zoom an online learning platform (Fig. 3).

98.4% of students had used Zoom an online learning platform during COVID-19 pandemic (Fig. 4).

25.6% of teachers had experienced network issues as the main problem during online classes (Fig. 5).

Other issues faced by the teachers were: no interaction with students, less student attendance, and distraction from the environment.

90% of staff did not prefer online teaching over classroom teaching during lockdown due to the COVID-19 pandemic (Fig. 6).

During Covid-19 Pandemic which of the following online teaching platform are you aware of?

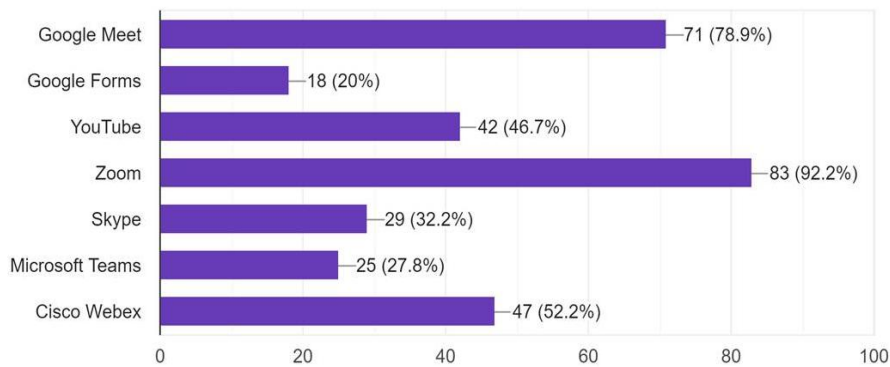


Fig. 1. Teachers were aware of various online teaching platform during the COVID-19 pandemic

Which of the following online platforms are you using for online teaching during Covid-19 Pandemic?

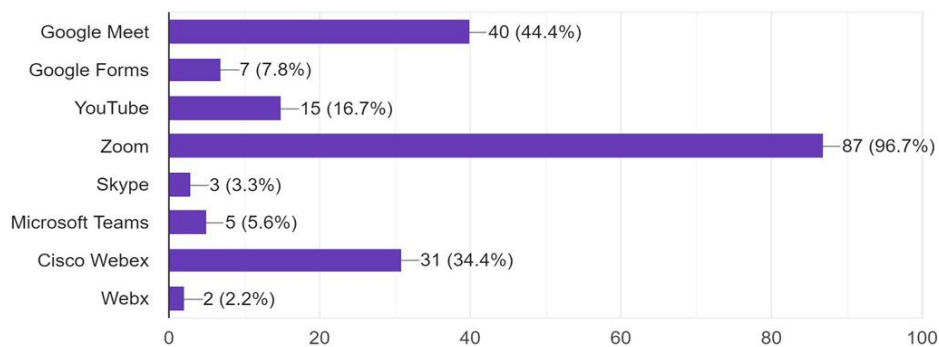


Fig. 2. Online teaching platforms used during COVID-19 pandemic

During Covid-19 Pandemic which of the following online teaching platform are you aware of?

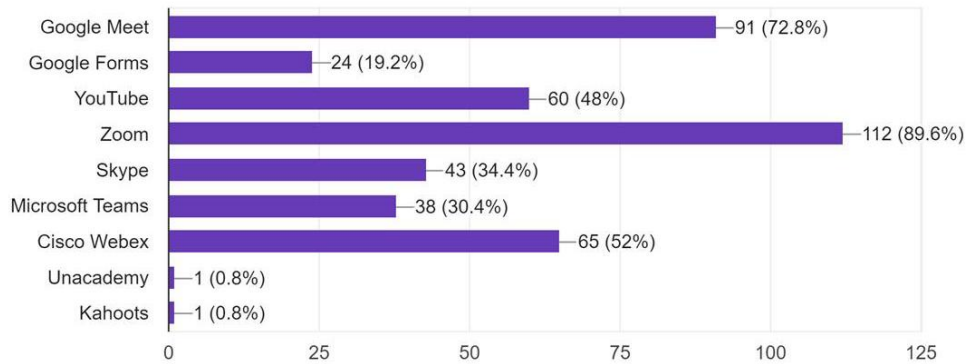


Fig. 3. Students were aware of various online teaching platforms during the COVID-19 pandemic

Which of the following online platforms are you using for online teaching during Covid-19 Pandemic?

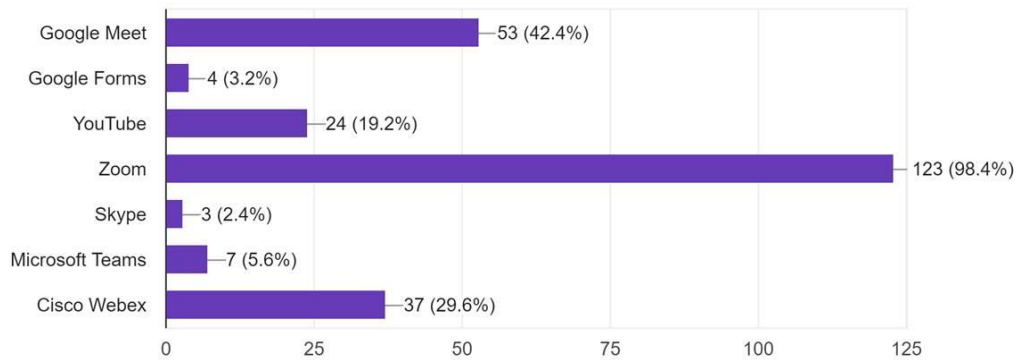


Fig. 4. Online teaching platform used by students during COVID-19 pandemic

What were the difficulties faced while taking online lecture?

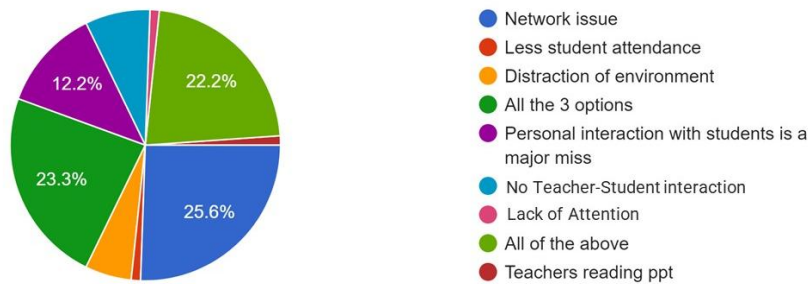


Fig. 5. Difficulties faced by teachers during online teaching

Did you prefer online teaching over classroom teaching?

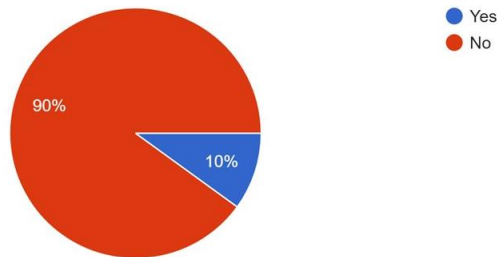


Fig. 6. Most of the teachers did not prefer online teaching

The reasons for not preferring online teaching were: no interaction with students, lack of attention of students, distractions at home, and get monotonous. 10% of teachers did prefer online teaching during the COVID-19 pandemic.

According to their opinion, the main advantages of online teaching were, ability to see recorded lecture from wherever they placed, teachers can share PowerPoint presentations or play video clips, and use board and markers whenever required and lecture attendance can be taken immediately and faculty can do online role-play, group presentations, guest sessions (Fig. 7).

There are few disadvantages of online teaching as experienced by the teachers. Most of the teachers had experienced a low concentration of students in online learning, including no student-teacher interaction, difficulty in getting access to the students residing in remote areas, no human

connection, and inability to judge student's responses (Fig. 8).

84.8% of students had attended more than 10 lectures. 82.4% of students didn't prefer the online learning method (Fig. 9). The most common difficulty faced by students was network irregularity.

Few of the students said that they did prefer the online learning method at the time of the COVID-19 pandemic. The reason was being able to attend the classes wherever they are stationed.

The students were asked about the advantages of the online teaching-learning method. Responses were: they can attend the classes from wherever they are stationed, topics were easier to understand as videos were played in the class, lecture attendance can be taken immediately, faculty can do online role-play, and facilitation of group discussion.

What are the advantages of online teaching according to your experience?

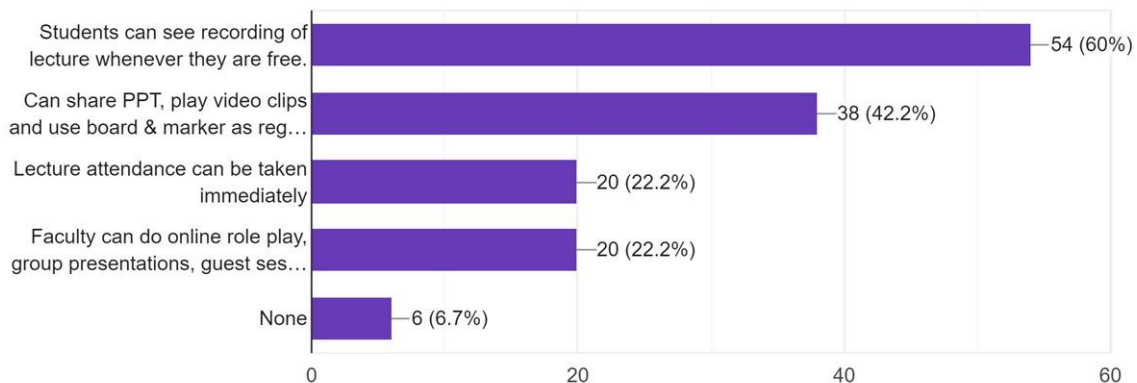


Fig. 7. Advantages of online teaching-learning method

What are the disadvantages of online teaching in your experience?

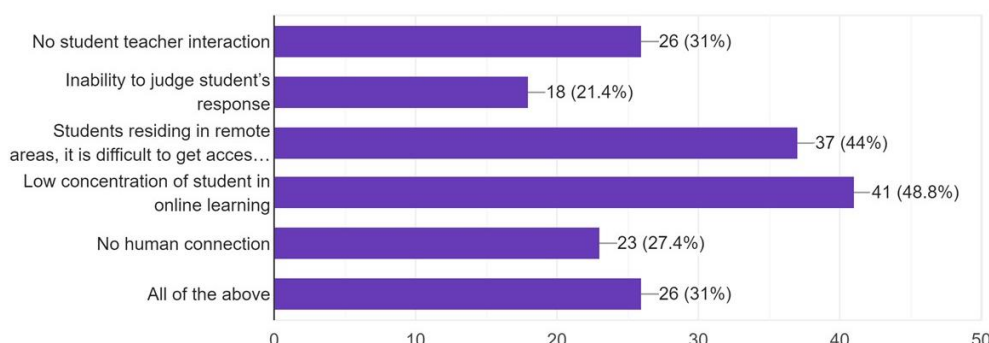


Fig. 8. Disadvantages of online learning method

Did you prefer online teaching over classroom teaching?

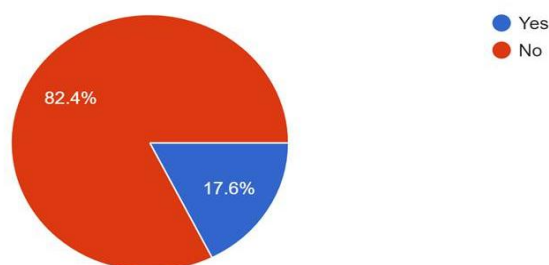


Fig. 9. Students did not prefer online teaching-learning during the COVID-19 pandemic

The students had given various suggestions to the staffs e.g. the duration of the class should not be more than 45 min, teaching content should be divided into small modules for easy understanding of the topic and the institute should provide good internet connectivity to the teachers for improving the online teaching-learning process.

4. DISCUSSION

Lockdown during the COVID-19 pandemic was a unique situation that required adaptation to the new circumstances. Online teaching and learning was the only suitable option available for the students as well as teachers during the COVID-19 pandemic [2-5]. Most teachers and students were not having any experience of online teaching platforms before the COVID-19 pandemic. Due to the outbreak of COVID-19, teachers had to transform from classroom teaching to online teaching.

The teachers were aware of the various online platform but 80% were not having any experience of online teaching during the COVID-19 pandemic. Most of the teachers were aware of Zoom an online teaching platform as it was easily available online platform. Even though the most preferred platform was zoom video conferencing because of its ease of video conferencing, without moving out of their places. But, it had few disadvantages and reliability issues [4].

90% of teachers did not prefer online teaching during the COVID-19 pandemic. The reasons for not preferring online teaching were: 'no interaction with the students', lack of concentration of students during online teaching, not able to interpret whether the topic was understood by the students or not, and network irregularity. Similar findings were reported by Naik G.L.et al., 2021 [5]. They reported that more than 60% of the students were not

preferred (due to lack of technical, infrastructural, and high-speed internet access, and power supply, limited network data per day) the online classes[6]. The survey reported that the online method was more effective for theoretical subjects.

The advantages to online teaching as experienced by the teachers were, ability to see a recorded lecture by students wherever they placed, teachers can share the Powerpoint presentation and videos of the lecture[5,6].

There were few disadvantages of online teaching noted by the teachers e.g. 'no student-teacher interaction', inability to judge student's response, and no human contact [6].

The most common issues faced by teachers were network irregularity and lack of students concentration [7,8]. Similar findings were reported by Samra Rupandee Kaur et al 2021[9]. They reported that problems faced by the faculty were network issues and increased expenditure on data. These issues were decreased in the second wave as compared to the first wave, but network connectivity and students' attitude issues were still unresolved.

The students were aware of various online learning platforms but they had not used online learning before COVID-19. Most of the students were aware of various online learning platforms but 98.49% of the students had used Zoom online learning platform during the COVID-19 pandemic. Most of the students did not prefer online learning during the COVID-19 pandemic. The students faced lots of issues during online classes e.g. lectures were not audible, they were not able to ask questions one to one, discontinuation of the lecture because of network irregularity, and no interaction with teacher [10,11]. The students were not able to communicate with other students and teachers because of a lack of human contact [12]. For students residing in remote areas, it was difficult to get internet connectivity.

Few of the students did prefer online teaching over classroom teaching during the COVID-19 pandemic. The reasons for preferring online teaching were the ability to attend the lecture from anywhere, the opportunity to see Powerpoint presentations or videos of class at any time, topic was easier to understand as videos were played in the class[11,13].

During the lockdown, online teaching was the only option available to teachers and students[6-11]. But as the pandemic situation improves and lockdowns are released, classroom teaching should be recommended to resume at the earliest.

The survey of teachers' and students' experiences of online teaching and learning is important to overcome the issues faced by them. Teachers' opinions are vital for improvising and dealing with issues about online teaching. The result of this study can be used as a guide for delivering effective online teaching.

4.1 Future Implications

It is possible that in the future similar restrictions in mobility due to newer pandemics may occur. Educational Institutes should be better prepared to face such challenges. The teachers should be trained for effective online teaching on various platforms.

5. CONCLUSION

COVID-19 pandemic has changed the way people interact on a global scale. This alteration has even extended into teaching-learning. Medical teaching and learning come with their challenges and the online teaching method necessitated by the pandemic have its implications on this. Nonetheless, institutes around the world have adapted brilliantly to the situation and are successfully conducting the online teaching-learning program thereby limiting the disadvantage that COVID-19 had put them in. It remains to be seen if this teaching-learning method will become the mainstay in the days to come.

6. LIMITATION

This study is limited to a sample size of 253 students and 101 teachers in the institute and hence findings of this study cannot be extrapolated for the whole country.

CONSENT

A valid written informed online consent was taken from all the participants.

ETHICAL APPROVAL

The study was approved by the Institutional review board committee (reference no. DYPV/EC/553/2020).

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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Peer-review history:

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