Original Article

ANNALS OF DENTISTRY
UNIVERSITY OF MALAYA
www.adum.edu.my

Ann Dent UM 2024, 31: 49-54
DoI: 10.22452/adum.vol31.8

The Dental Students Perception on Online Classes

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KEYWORDS

Education, Communication, Online learning, Dentistry

ABSTRACT

Online learning has become the next frontier and the method of choice for some education providers. This study focuses on students' insight on online classes and ways to improve it. The cross-sectional study was done at the Dental Faculty of the Islamic Science University of Malaysia (USIM), which include almost all undergraduate dental students who had attended online classes. In total, 179 respondents managed to answer the full set of questionnaires with thirty different questions. The data analysis reveals that mixed physical and online classes is recommended by the students to improve their learning experience and education performance. Excellent multimedia, video presentation, fast internet connection and communication is a crucial key for the success of student education. In conclusion, online learning has become an alternative to conventional teaching in dental institutions. The flexibility of the time to study and the option to pause/ playback are some of the benefits of online learning. However, not all subject in dentistry can be taught effectively in online learning. Students practical, laboratory and clinical teaching still need to be conducted physically as hands-on training is still the best. Nevertheless, online learning is still a viable teaching method for strengthening the theoretical academic part.

INTRODUCTION

Numerous universities around the world have started exploring online distance education due to COVID-19 pandemic. The pandemic has severe impact on teaching learning programs as students were restricted to attend normal classes at the university. Thus, many institutions turned to online classes for the continuity of education. During the pandemic, many lecturers and students were having difficulties enduring online learning due to the lack of experience. Online education is a type of learning which is performed virtually and depends on the internet for the interaction between lecturer and students [1]. To be considered as an online course, at least 80% of learning content is provided on online platform [2]. Distance online learning can be synchronous and asynchronous [3]. The method can be established through recorded lectures, online questions, clinical videos, online simulations, PowerPoint presentation, demonstrations by lecturer, and clinical virtual round, discussion of clinical cases and many more [4]. Apart from that, online medium that can be utilized for online teaching are Google Classroom, Microsoft Teams, Skype, Zoom, Zoho, Slack and others [3].

One of the most significant effects of pandemic is the closure of educational establishments around the world [5]. Due to this reason, many universities worldwide have chosen online education as their platform of delivering the courses to the students. Universities also developed online platform such as orthodontic screening apps to help student during the pandemic [6]. The rapid development of online education platform is also due to certain areas in the country that undergo restriction movement control order. Despite the positive perceptions from students and teachers to online learning strategies [4], there are also evidence of elevated level of stress among students and reduced education performance [7].

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Conservatively, dental education comprised of lectures, problem-based learning, laboratory work and clinical teaching. Malaysia's dental program is made of 2 years of pre-clinical and 3 years of clinical teaching. Pre-clinical years involved medical knowledge such as histology, anatomy, physiology, and pharmacology, whereas students in the clinical years perform laboratory work and patient care [8]. In simulation laboratory work, the students will practice on simulated patient or mannequin after demonstration by the lecturers [9]. Simulation laboratory practical can provide a smoother transition for students from a mannequin to a real patient in clinic [10].

Education sector is one of the most impacted sectors due to Covid-19. Educational institutes around the globe were forced to change from the conventional to online teaching [11]. The main challenges faced by students was connectivity and internet issues where the students claim that absence of the internet, slow connectivity and speed was a barrier for learning [11]. The poor quality of connection during online class may compromise the students' understanding. In recent studies, students rated internet coverage from poor to average [12]. Moreover, many students around the world were dissatisfied with weak internet connection, and requested high speed internet and broadband connection to improve their distance learning process [13,14]. Other than that, students also complaint of electric supply disruption during their online classes. Due to this problem, it can be one of the main factors that may lead to stress and decline in education performance [15]. This power outages also have been reported to be frequent in summer season of certain countries [12]. However, in Malaysia, the problems with power sources may be less likely to occur except for those who are in rural areas. In addition, there are also internet barriers experienced by the students during online teaching as reported in an anonymous online survey. Many of the respondents reported about their social connections, loneliness, emotional and physical stress [15].

MATERIALS AND METHODS

The cross-sectional study was done at the Dental Faculty of the Islamic Science University of Malaysia (USIM), which include all undergraduate dental students (preclinical and clinical) who had attended online classes. The preclinical students are those in the first year and second year of study while the clinical students are from third until fifth year students. The questionnaire was made up of 30 questions covering the students' experience on online classes. The questionnaire was adapted from previous studies [2,16,17]. Ethical approval was obtained from the Islamic Science University of Malaysia Ethics Committee with the registration number of USIM/JKEP/2021/130. Pretesting and validation of the questionnaire was done among ten dental students prior to the study. Sample size calculation was done using online calculator via Qualtrics.com; 95% confidence level, 5.0% margin of error and 185 population size. The expected sample size of this survey is 125 participants from population of students in Faculty of Dentistry, USIM. The questionnaire was then distributed manually to respondents after consent was obtained. The total number of participants acquired were 179. The data obtained were then analysed with SPSS version 24.0.

RESULTS

As for basic demographics, there were 38 (21.2%) male participants and 141 (78.8%) female participants. Distribution of students are as follows: First year, 45 (25.1%); Second year, 45 (25.1%); Third year, 35 (19.6%); Fourth year, 20 (11.2%); Fifth year, 34 (19.0%).

A five-point Likert scale (strongly disagree =5, disagree =4, neutral =3, agree = 2, Strongly agree =1) was used to evaluate students' perception on online classes. In Table 1, 79.9% students thought that online class is better than face-to-face class in term of time flexibility. More than half of the students (54.7%) thought that online class and face-to-face class have equally same learning effectiveness. From the students' perception, the expected learning outcome can be accomplished through online learning, which was agreed by most of the students. 44.3% of the students reported of enough time allocation to learn a topic from the syllabus in online class. 29.6% of the students agreed that online class can improve their quality of learning while 21.3% of them disagreed. The percentage of students that disagree about online learning provides an easier way to communicate with lecturers and colleagues was higher (35.2%) than those who agreed (31.8%) with this statement.

There are 39.6% students that reported lack of interaction between lecturers and students during the online classes while 12.3% students voted for good interaction. During online learning, the method of watching videos helped students to understand well and this was agreed by 76% students. The worst rating was reported for question; response from students in online class is

better than during face-to-face class (average rating: 3.53). 33.6% of the students agreed that online class should be continued even after physical classroom have started. The percentage of students that felt easy to complete group projects or assignments through online meeting was lower (29.7%) compared to those who felt otherwise (39.7%). Majority of the students voted that they cannot give full attention throughout the online class. Most of the students (n=109, 60.9%) reported that the lecturers clearly explained the topics through online class. 31.3% of students responded that online learning is equally informative when compared to face-to-face classes in campus while 19% of them disagreed.

Most of the student agreed that the method of delivering lectures during online classes could affect their understanding and focus level (70.4%). 47.4% of study participants agreed that active learning can be created with online class. 47.5% of students reported that demonstration of laboratory or clinical procedure through online class could help them understand better. More than half of the students (n=135, 75.4%) suggested that lecturers should ask for students' feedback about issues faced during online learning. Most of the students (63.7%) are satisfied with the assistance in accessing education resources. Majority of the students think it is better to have a mix of online class and physical class. More than 36% of students stated that online education can give positive impact on their confidence level but 24% of students stated the vice versa. From this survey, there is often distraction at home during online classes, which was agreed by 73.2% of the students. Most of the students found that their residential environment is conducive for online learning. 52% of students felt that the attendance during online class is the same as attendance during face-to-face class.

Most of the preclinical students (45.5%) disagreed that online learning provides an easier way to communicate with lecturers and colleagues, whereas most of clinical students (40.5%) agreed with that statement. Moreover, most of preclinical students (52.2%) disagree that group projects and assignments are easier to be completed through online meeting compared to clinical students (19.1%). However, both preclinical and clinical students reported it is better to have a mix of online and physical class (77.8% and 70.8% respectively). Majority of students reported that they will play the recording of online class if they did not understand or did not pay full attention during online class.

DISCUSSION

The COVID-19 pandemic has caused disruption to teaching institutes. In this study, most of the students agreed that the method of delivering lectures to student during online class affect the understanding and focus level of student. One of the effective methods of delivering is by supplementation of videos during online learning. This is believed to help the students have a better understanding in relation to the lecture. Majority of the study participants felt that there is lack of response from students during the online teaching compared to physical classes. Consistent with research by Choi et al. [14]. several students believed that online learning lacked personal touch and interaction between them and the lecturers [14]. A vast majority of participants agreed that online classes allow students to have more flexible time. In accordance with previous study, whereby online learning allows them to manage their schedule more effectively and efficiently [18]. The students mostly agreed that the attendance during online classes is the same as the attendance during face-to-face classes. The students can easily attend the online class via their portable devices no matter where their location is. However, in another study, there are many times that the students only log in to record the attendance requirement, but did not attend the lectures [15]. As for distraction at home during online classes, 73.2% of the respondents reported being distracted which concur with the conclusion by Maqableh & Alia [19]. Distractions may come in various forms for instance, technical difficulties, social medias, background noises from televisions and family members and the desire to lie on bed.

Both clinical and preclinical students stated that they will play the recording of the online class if they do not understand or do not pay full attention. Hew et al. reported better learning outcome when comparison was made between flipped classroom (combination of physical and online classroom) and traditional classroom [10]. Students reported that having pre-recorded video lectures before the start of class enabled them to learn at their own pace at any time. They could also play the video several times to have a better understanding on certain subjects. Most of the respondents in this study reported that they agree to have a mix of online and physical classes. Similarly, most students preferred a mixture of these learning methods (online tutorials and traditional teaching). According to a previous study, financial constraints, emotional and physical stress are the main challenges of online learning [20]. However, in our findings, most of the

students does not have any financial burden and positively embrace online learning. This might be due to lack of interaction between them as they are trying to build new relationship with new friends.

Table 1 Students' perception on online classes

Question	Agree *n* (%)	Neutral *n* (%)	Disagree *n* (%)
1. Does online class is better in term of learning?	27 (15.1)	98 (54.7)	54 (30.1)
2. Does online class is better in term of time flexibility?	143 (79.9)	26 (14.5)	10 (5.6)
3. Does online learning accomplish the learning outcome?	65 (36.3)	82 (45.8)	32 (17.9)
4. The time allocated for an online class is enough.	81 (45.3)	76 (42.5)	22 (12.3)
5. Do you think online class can improve your quality of learning?	53 (29.6)	88 (49.2)	38 (21.3)
6. Watching videos during online learning help me to understand well.	136 (76.0)	32 (17.9)	11 (6.2)
7. Online learning provides an easier way to communicate with lecturers.	57 (31.8)	59 (33.0)	63 (35.2)
8. There is good interaction during the online classes.	22 (12.3)	86 (48.0)	71 (39.6)
9. Response from students in online class is better.	27 (15.1)	50 (27.9)	102 (57)
10. Online class should be continued.	60 (33.6)	85 (47.5)	33 (19.0)
11. It is easier to complete group projects/ assignments through	53 (29.6)	55 (30.7)	71 (39.7)
12. I can give full attention throughout the online class.	28 (15.7)	77 (43.0)	74 (41.4)
13. The lecturers clearly explained the topics through online class.	109 (60.9)	65 (36.3)	5 (2.8)
14. Online learning is equally or more informative	56 (31.3)	89 (49.7)	34 (19.0)
15. The method of delivering affect the understanding and focus level	126 (70.4)	47 (26.3)	6 (3.4)
16. Active learning can be created with online class.	85 (47.4)	55 (30.7)	39 (21.8)
17. Demonstration of clinical/laboratory work would help in a better way.	47 (26.3)	47 (26.3)	85 (47.5)
18. The lecturers should ask for students' feedback	135 (75.4)	43 (24.0)	1 (0.6)
19. Students are assisted to accessing study materials.	114 (63.7)	58 (32.4)	7 (3.9)
20. I think it is better to have mix of online class and physical class.	133 (74.3)	40 (22.3)	6 (3.4)
21. Does online education give positive impact on your confident level?	62 (34.6)	74 (41.3)	43 (24.1)
22. There is often distraction at home during the online classes.	131 (73.2)	34 (19.0)	14 (7.8)
23. Home/hostel/residential environment is conducive for online classes.	76 (42.4)	82 (45.8)	21 (11.7)
24. The students' attendance during online class is the same.	93 (52.0)	52 (29.1)	34 (19.0)
25. I will play the recording if I do not understand.	145 (81.0)	27 (15.1)	7 (4.0)
26. Electrical devices are always available for online class.	123 (68.7)	43 (24.0)	13 (7.3)
27. I have a good internet connection every day.	62 (34.6)	75 (41.9)	42 (23.5)
28. Do you have any technical difficulties during online classes?	82 (45.8)	67 (37.4)	30 (16.7)
29. Do you have to share your electronic devices with others?	26 (14.6)	43 (24.0)	110 (61.4)
30. Does online class burden you in term of cost?	39 (21.8)	57 (31.8)	83 (46.4)

CONCLUSION

Online education has become a crucial asset for the survival of dental institution during the pandemic and for the near future. It is an exceptional alternative to prevent academic loss and for the continuation of knowledge transfer. Conversely, not all disciplines in dentistry can effectively use e-learning in education. For instance, online learning may help in the continuance of strengthening the theoretical academic part. However, practical, laboratory, and clinical experiences still need to be conducted physically as no other substitute can replace a hands-on training.

ACKNOWLEDGEMENT

All the authors would like to acknowledge the financial support from the Universiti Sains Islam Malaysia for the Biduni Mizaniyah Grant with the code number (PPPI/BM/FPG/USIM/11621).

DECLARATION OF INTEREST

Authors declare no conflict of interest.

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Editorial History

Date of Submission: 29 May 2024
Review & Revision: 11 June – 23 Aug 2024
Accepted: 26 Aug 2024
Published: 25 Sept 2024