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## Article

# Student Perception of Online Teaching in Undergraduate Dental Education in Bangladesh: A Qualitative Study

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**Abstract:** During the COVID-19 pandemic, the education sector of Bangladesh suffered a lot. To adapt to this uncertain situation, the online teaching-learning method was introduced for the first time in the dental colleges to continue regular classes. This qualitative study explored the in-depth perception among students of this new, affordable, flexible online learning method and to find out the scope of improvement of the delivery method. Two focus group discussions (FGD) were conducted, each including 6-8 participants (N=16, the male: female ratio was 7:9) for gaining an in-depth understanding of the perception of online teaching among the dental students. With the help of the trigger questions, the facilitator and moderators conducted both the FGDs. By analysing the Focus group discussion, four distinct themes were identified. The main themes extracted from the data refer to the difficulties which students faced during participation in online classes (e.g., low attention span, unusual timing of classes, internet accessibility, power cut, boring content, etc.), advantages of online learning (e.g., saves time, able to continue studying during the lockdown, saves money, avoids commuting, being safe during a pandemic situation, one can participate in classes if sick, etc.), disadvantages of online classes (e.g., not feasible for clinical classes and lab works, lack of social interactions, lack of group study, long screen time, lack of after class peer discussion, lack of engagement, etc.), and also scopes of improvements (e.g., technological training for staff, recorded classes, technological orientation for students, more engaging contents, online support, more interactive lessons, short duration of the class, break after 30-45 minutes and also teachers training for online facilitation, etc.). In Bangladesh, the online teaching-learning method is not a regular practice. Most of the institutions were forced to adopt this method on very short notice because of the COVID-19 pandemic lockdown. Online education in a clinical subject like dentistry requires a special training program, online content preparation, and interactive lesson delivery setup. Which are big challenges for a resource-constrained medical education setup. The focus group discussion unveiled some key issues which indicated that there are many scopes for improvement in online teaching methods. With the help of the medical education department and through faculty development the online learning sessions can be made attractive as well as beneficiary for the key stakeholders.

**Keywords:** focus group discussion; online teaching; student perception; dental education; online learning; faculty development

## 1. Introduction

The COVID-19 pandemic has dramatically changed the way education is delivered and has led to an increase in online learning [1–4]. With widespread lockdowns and social distancing measures, many dental schools have shifted towards remote learning, the use of virtual platforms and tools. This sudden shift to online learning has presented numerous challenges, including a lack of access to technology for some students, difficulties with virtual engagement and motivation, technical issues, increased stress and anxiety, and a lack of hands-on experience [5–8]. However, the pandemic has also accelerated the adoption of digital technologies in education, leading to the development of new and innovative learning solutions [1,9]. For example, many schools and universities have turned to virtual classrooms and online course materials to continue delivering education to students [10]. Additionally, new learning management systems and educational apps have been developed to help teachers and students manage and participate in remote learning. In the long term, the use of online learning in health professional education is expected to continue even after the pandemic subsides and may lead to more widespread embracing of online learning as a complement or alternative to traditional classroom-based education [5,11].

Depending on the individual and their learning experience, students may perceive online education in many ways. Some students view this new form of instruction favourably, while others find it difficult [10]. A student's view of online medical education can also be affected by factors such as prior technological experience, self-motivation, and good time management skills. It is essential for schools and institutions to continue support for the students and provide tools to assist them to flourish in this new learning environment [12].

Positive perceptions of online learning include increased flexibility, convenience, and the ability to learn at one's own pace. For students who struggle with in-person classroom dynamics, online learning can provide a more comfortable and less stressful environment for learning. Additionally, students have the ability to revisit recorded lectures and materials as needed, which can help them better retain information [13].

However, many students have also expressed negative perceptions of online learning. A lack of face-to-face interaction and socialization can lead to feelings of isolation and disconnection from the educational community. Technical difficulties, such as poor internet connectivity or outdated technology, can also hinder the online learning experience. In addition, students may miss the structure and routine provided by in-person classes, making it harder for them to stay motivated and engaged [7].

The COVID-19 pandemic has had a huge impact on education systems around the world, including Bangladesh. As with many other institutions, dental colleges in Bangladesh have had to adjust to the new realities of the epidemic by transitioning to online learning. Despite prohibitions on in-person gatherings and the requirement for social separation, dental students in Bangladesh were able to complete their study through online learning. This has proven to be a helpful option for dental colleges in Bangladesh, allowing students to complete their studies without falling behind and keeping them safe [14].

The transition to online learning has not, however, been without obstacles. Others may struggle with the lack of in-person interaction and assistance. Furthermore, not all dental colleges in Bangladesh may have the means and ability to provide high-quality online education. Despite these obstacles, online education has been a vital resource for dental colleges to continue educating their students during the COVID-19 pandemic [14].

This study aims to explore the perception of dental students about their online learning experience and to identify the scope of improvement of online learning sessions using a qualitative survey approach (Focus group discussion).

## 2. Materials and Methods

Students from two dental colleges of Dhaka City, Bangladesh were invited through respective focal persons to participate in virtual focus group discussion (FGD) through the Zoom platform, addressing their perception of the online learning experience. The ethical clearance for the study was

granted (Ethics Ref No. PHF-NG-1006) by the Public Health Foundation, Bangladesh Ethical Review Committee (PHFBD-ERC).

A trial FGD was conducted including 6-8 participants. According to the findings of the Trial FGD, a structured guideline was developed to conduct the online focus group discussion.

In August 2021 two FGDs were conducted via the Zoom Cloud Meeting platform. Chatbox was used to record if the participants agreed with the opinions generated in the discussion. Sessions were facilitated by the principal investigator, notes taking, moderation, and recording were done by other investigators (Table 1). The moderator acted as the admin, welcomed the participants, and explained the general rules and purposes of the discussion during the ice-breaking period. Six (6) open-ended questions were designed and reviewed by the experts to discuss during the FGD. The questions were arranged in a simple to more complex manner. The questions were used as a guideline to keep the discussion on track (Table 2).

**Table 1.** Structure of the FGDs.

Total duration 80-112 minutes		
Login in & Ice breaking	2-5 minutes	Moderator
Discussion	30-45 minutes	Facilitator
Break: Light exercise	5-7 minutes	Moderator
Discussion	30-35 minutes	Facilitator
Debriefing	10-15 minutes	Moderator
Closing with thanks	3-5 minutes	Moderator

**Table 2.** Trigger questions to facilitate discussion of the FGDs.

1. Did you have previous experience with online education? (Is this the first time/ what other experiences)
2. Do you enjoy studying online? (Why yes/why no)
3. Do you miss anything about your previous education system? (Point out the things that you miss)
4. Do you face any problems while studying online from home?
5. Do you have any suggestions on how we can make it better? (Point out the suggestions)
6. After the pandemic is over would you like to continue studying this way? (Why yes/Why not)

The FGDs were recorded, and the recording is then transcribed verbatim by one researcher. Two other investigators then conducted individual thematic analyses of the transcription manually.

### 3. Results and Discussion

Two FGDs were conducted, each including 6-8 participants (N=16, the male: female ratio was 7:9) for gaining an in-depth understanding of the perception of online teaching among dental students (Table 3). With the help of the trigger questions (listed in Table 2), the facilitator and moderator conducted both the FGDs. By analysing the FGDs four distinct themes were identified (Table 4). Some quotes of the participants according to the themes are depicted for better understanding.

**Table 3.** Distribution of participants according to gender and study level.

Year of study	Male	Female
1st	3	3
2nd	2	3
3rd	2	2
4th	-	1
Total	7	9

**Table 4.** Main themes of the focus group discussion.

Themes	Students' responses
Difficulties faced during online classes	Attention span Concentration Timing of classes Class routine Adjustment to the online environment Internet accessibility Technical support Boring content Late hour classes Lack of motivation Hesitancy to interact Screen shyness Monotonous lesson delivery Domestic distractions Internet quality Proper lighting Not a proper learning environment Not a proper teaching environment Unusual class timing Lack of technological skill
Advantages of online classes	Saves time Can continue study during lockdown Saves money Avoids commuting Safe during the pandemic situation. One can participate in classes if sick
Disadvantages of online classes	Not feasible for clinical classes Not feasible for lab work Lack of social environment Lack of group study Lack of interaction Long screen time Lack of after-class peer discussion Lack of engagement Lack of eye contact Failure to notice facial expressions by teachers
Scope of improvement	More exposure to online classes Technical training for teachers Recorded classes Technological orientation for students More engaging content Online support More interactive lesson Short duration of class Break after 30- 45 minutes Incorporating humour during a lesson Incorporating activity Theoretical topics should be taught Some online classes can be added alongside face-to-face teaching



**Theme 1: Difficulties faced during online classes:** (Trigger question: Do you face any problems while studying online from home?)

The participants were complaining about distractions due to internet quality and connectivity. Students expressed that they prefer a fixed routine of classes within the daytime as they had in the dental schools rather than late evening classes.

For all the students, this was their first experience of learning on an online platform, and for most of the teachers also it was their first-hand experience of online teaching. Monotonous lesson delivery and boring content were an issue too. They also mentioned failure to interact because of hesitancy and shy feelings over the screen. This was the statement of most of the students - "*Online classes are boring*" (Group 1; Year 3: Female).

Studies conducted during the COVID-19 pandemic highlighted the challenges and limitations of online learning conducted by health professional schools [1,4]. An online survey was conducted in Germany after implementing an online semester during the COVID-19 pandemic in 2020 [4]. The data revealed that 60% of lecturers of dental school never used online learning platforms before the COVID-19 pandemic. Around 37% of the students preferred face-to-face learning instead of solely online learning.

The students felt distracted during the online sessions. Some of them shared their experience of teachers taking a class at home and the domestic environment was creating distractions. Some shared situations when they were attending a class, family affairs were interrupting the lesson.

A UK-based national survey among the 39 medical schools (2721 participants) revealed that common challenges to online teaching were family distraction 27% and internet connection 22%, which were also the opinions of the FGD participants of our study [15]. The medical students of West Bengal, India also responded in a cross-sectional descriptive study through an online questionnaire that, the major challenges of online learning are internet connectivity issues 80%, family distraction 38%, and inconvenient timing of classes 20% [16], the findings favour the opinions of the participants in our focus group discussions.

The same kind of opinion of distraction during online learning at home resonated in other studies [17]. A cross-sectional study done in Bahrain in April 2021 found that most of the students preferred distance learning for the theoretical part and face-to-face teaching for practical components (73%). Participants also reported distance learning improved interaction with instructors 46%, with classmates 49% which does not support the opinions of our study participants [18].

A virtual focus group discussion was conducted in Saudi Arabia where they found most of the preclinical students preferred online learning for the upcoming academic year which supports the findings of our study too. Some of the participants shared the same kind of opinions regarding the challenges of the learning environment, domestic distractions, and communication gaps with teachers [19].

A study done at a teaching hospital in Eastern India also concludes that online teaching is not as effective as face-to-face teaching, and the reason was mainly the change in student-teacher interaction [20]. King Saud University surveyed to identify the readiness towards online learning among preclinical dental students in 2017, and they found that the student's attitude was positive towards online learning but only to supplement classroom teaching not to replace it [21]. The same view was reciprocated by the dental students in another study in Romania [22].

**Theme 2: Advantages of online classes** (Do you enjoy studying online? (Why yes/why no))

"We are happy, at least we can continue our education" (Group 2; Year 2: Male) the most common feeling among the participants was noticed. After the institutes were totally closed for the pandemic, all the students felt unsure about their life and future. The online classes gave hope, and they were relieved to continue their education and meet their peers. Almost all the students appreciated online learning as a good option in the pandemic situation.

A cross-sectional study including 930 undergraduate dental students from India, Sri Lanka and Nepal assessed the perception of students towards online education and other factors using the DREEM questionnaire in November 2020 and found that the preclinical students had a positive perception contrary to the clinical students [23]. An email-based questionnaire survey was done

including 2520 health science students in Croatia, who participated in e-learning in April/May 2020. The data revealed that compared to classroom learning around 65% of students had equal or higher motivation for exclusive e-learning. Around 56% reported that they would prefer to combine classroom learning and E-learning [24].

A questionnaire-based study among 100 dental students in India supports the opinion of the students of our study despite all the benefits of online learning such as time-saving, affordable, and avoiding traffic hassle, the students preferred classroom learning. The students even had the same pattern of concerns as our study participants regarding practical classes, personal attention from staff, and student-teacher relationships [25].

**Theme 3: Disadvantages of online classes** (Do you miss anything about your previous education system? (Point out the things that you miss))

The students felt isolated during online classes -

*"We miss our classroom environment"* (Group 1; year 2; male)

The students missed the social interaction, group study and peer discussion. Given the option to choose between online and onsite learning environments after the pandemic, they preferred the onsite method.

The reasons were:

*"We miss the classroom environment"* (Group 1; year 2; male)

*"We miss group study"* (Group 1; year3; male)

*"We cannot interact properly over online"* (Group 2; year 2; female)

Another study conducted during the COVID-19 pandemic among 952 dental students in Bangladesh also found a significant association of satisfaction with the factor "student-teacher interaction during and after the class" [26].

All the students expressed their concern about learning clinical and laboratory work. A study in Jordan revealed that 77% of students missed their educational experiences. The students partially appreciated the online system whereas they did not consider it as a substitute for face-to-face clinical teaching, which supports our study findings [27]. Another mixed method study was done at a public university in Bangladesh among the students and found that most students were facing difficulty participating in virtual classes, they could not communicate correctly during online classes. the majority of the students preferred traditional classes to virtual classes and the participants mentioned that they did not understand the content of virtual classes easily [28].

**Theme 4: Scope of improvement:** (Do you have any suggestions, on how we can make it better?)

For all the students, this was their first experience of learning on an online platform and for most of the teachers also, it was their first-hand experience of online teaching. Monotonous lesson delivery and boring content were an issue too. They also mentioned failure to interact because of hesitancy and shy feelings over the screen. This was the statement of most of the students - *"Online classes are boring"* same kind of expressions were shared by all the participants of group 1 FGD. A male student added *"It is not that we are not getting attention from our teachers, but they are trying their best too, It is also first time for them too."* (Group 2; year 3; male) The same kind of remarks were shared by six other participants. The students preferred technical support, and orientation sessions for the online learning platform. One of the trigger questions was "Did you have previous experience with online education?" The participants explained that they never had an experience with online classes before the COVID-19 lockdown, they also explained that the teachers also had no previous experience of online teaching. More exposure to such methods would surely bring out a better experience. Because of the pandemic lockdown the students were not necessarily located in the city, they were attending classes from remote villages, in various locations. Not every location had high quality internet facility and uninterrupted power supply was not always ensured. participants mentioned internet connectivity as one of the challenges for online education which resonates in another study done in Bangladesh [29].

Participants preferred recorded classes to be available in case of such situations. According to the participants the facilitators should be trained for online teaching so that more engaging and interactive lessons can be delivered. A male participant stated, *"We also don't know how to use online*

*classes to make it useful, I am more comfortable in physical classes."* Another male participant added, *"Main problem is the communication gap with the teachers, No interaction with the teachers."* Another participant urged *"Teachers need to develop skills, to create engaging content, to create interesting lessons."* the above mentioned study done among 431 students of different medical colleges of Bangladesh also found that only 27% agreed and 11% strongly agreed to the point that the teachers being technically skilled enough to conduct online classes (27) Other studies also share the same concern "lack of technological skill", and "Incompetency in terms of technological knowledge and skill" are mentioned by teachers as the points to be improved. Especially senior teachers do not consider themselves tech-savvy [30]. Another qualitative study was done among 15 senior-level educators to assess the challenges of e-learning during the pandemic, they included little experience with e-learning at the start of the pandemic among both staff and students, fear and anxieties among both students and staff as some of the key issues too. The colleges responded by instigating teaching classes for educators for e-learning sessions [31].

In this study, the participants also suggested that the class duration should be short or there should be a break after 30-45 minutes to minimize screen time. Small humours and activities also should be incorporated into the lesson plans.

## 5. Conclusions

In Bangladesh, the online teaching-learning method is not a regular practice. Most of the institutions were forced to adopt this method on very short notice because of the COVID-19 pandemic lockdown. Online education in a clinical subject like dentistry requires a special training program, online content preparation, and interactive lesson delivery setup. These are big challenges for a resource-constrained medical education setup. The FGD unveiled some key issues which indicated that there are scopes of improvement in online teaching methods. With the help of the medical education department and through faculty development the online learning sessions can be made attractive as well as beneficiary for the stakeholders.

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**Institutional Review Board Statement:** Ethical approval was obtained from (Ethics Ref No. PHF-NG-1006) the Public Health Foundation, Bangladesh Ethical Review Committee (PHFBD-ERC). The study was conducted by the guidelines of the 1975 Declaration of Helsinki.

**Informed Consent Statement:** Written informed consent was taken from the participants before the onset of the research project to ensure that the participants fully comprehended all aspects of the study and agreed voluntarily to participate. The participants were informed that their identities will not be disclosed in the reports, and confidentiality will be maintained. All the participants were addressed with codes. Only the Principal investigator and Co-investigator knew about the identity. The participants were also informed that they had the right to refuse or withdraw from the study at any point of the research.

**Data Availability Statement:** Data and copies of the recordings are available upon reasonable request to the corresponding author.

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