

Article

Students' Experience of Online Learning in a Blended Learning Setting: A Qualitative Evaluation

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Abstract: Background: This study aimed to evaluate students' perceptions of their educational experience of online learning in a blended learning dental education. It was also to investigate the online platform in a blended learning setting as an educational mode for future dental education. Methods: A qualitative phenomenological approach was used to gain insight into the students' experiences. Fifteen students agreed to participate in three synchronous online focus groups held via WebEx; each group consisted of five students. Results: Thematic analysis was carried out iteratively and inductively, and three themes emerged that interrelated with each other and the research question. Students appreciated the blended learning educational experience, particularly the reduced time and cost of travelling to and from the school and the prospect of combining education with home comforts and commitments. Some students still preferred the face-to-face learning mode, as they believed they could concentrate more than on the online platform. The teachers' communication skills on the online platform impacted on the students' views on its suitability and its continuum in future education. Conclusions: Within the limitations of this study, students perceived online and blended learning as more convenient, particularly in a busy and expanding dental curriculum.

Keywords: online learning; blended learning; students' perceptions

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1. Introduction

The unpredictability, uncertainty, and challenges of the COVID-19 pandemic led to modifications in educational activities [1]. Education authorities assigned significant resources to overcome these educational challenges. Dental educators also acted quickly to ensure that students met their academic requirements and clinical competencies.

The era of COVID-19 affected education systems worldwide, and any related educational research on their impact could be a potential ground for developing pedagogy and technology [2]. Various methods, techniques, and instructional delivery methods emerged before and during the pandemic. Virtual and blended pedagogies dominated the educational environment during the pandemic, which has reportedly widened the academic horizon of students [2]. Nonetheless, the shift during the pandemic came with many challenges, one of which was that a limited number of faculty members had knowledge of or prior experience with online teaching [3]. Most teachers had no choice but to quickly adapt and adjust their teaching strategies to deliver the course materials. The other challenge was the psychological stresses faced by students, which may or may not have been considered during that time. Nevertheless, both teachers and students gained experience and confidence within the online and blended learning platforms, which should help accelerate the pace of any future consideration of moving towards its adoption and any related developments and innovations. Reflecting on the above, it is important to evaluate the pandemic experience and find grounds that may be encouraging and motivating for

the movement from traditional teaching in dentistry to virtual and blended-learning-based pedagogies, which are hoped to be student-focused and optimized to students' learning and satisfaction.

Blended learning is believed to be learner-centered and allows flexibility in the learning process [4]. In dental education, it has been received positively and has demonstrated improvements in students' social cognition [5]. It is also believed to increase motivation and improve the learning experience [6,7]. In social work education during COVID-19, online learning, in particular, was perceived to have provided students with the prospect of developing new skills, resilience, and flexibility; however, they also indicated that they viewed the experience as a temporary solution to the constraints forced by the COVID-19 pandemic [7].

Comparing online learning in a blended learning setting with traditional learning in dental education might be more complex since clinical exposure to patients is an exceptional educational setting [2]. In addition to this complexity, in education, especially in practical colleges, students are likely to feel more confident with face-to-face teaching than with virtual and blended learning. Therefore, evaluating and analyzing students' voices of those who participated in online and blended learning is valuable since, through students' voices, our understanding of the experiences and the expectations of the students would be more apparent and appreciated [8]. We might then have an insight into any related strengths and weaknesses from their perceptions and accordingly evaluate the potential continuum of this educational format. Notwithstanding, our analysis was based on their experience during the pandemic, and we should remain cognizant that the experience must have had a significant effect on students' mental health and, hence, their perceptions and reflections [9].

Conceptual Framework

Figure 1 depicts the virtual learning model in a blended learning setting in dental education. The multilayered context of virtual and blended learning is seen as overlapping circles that denote the interrelationship between the influences on blended learning in dental education.

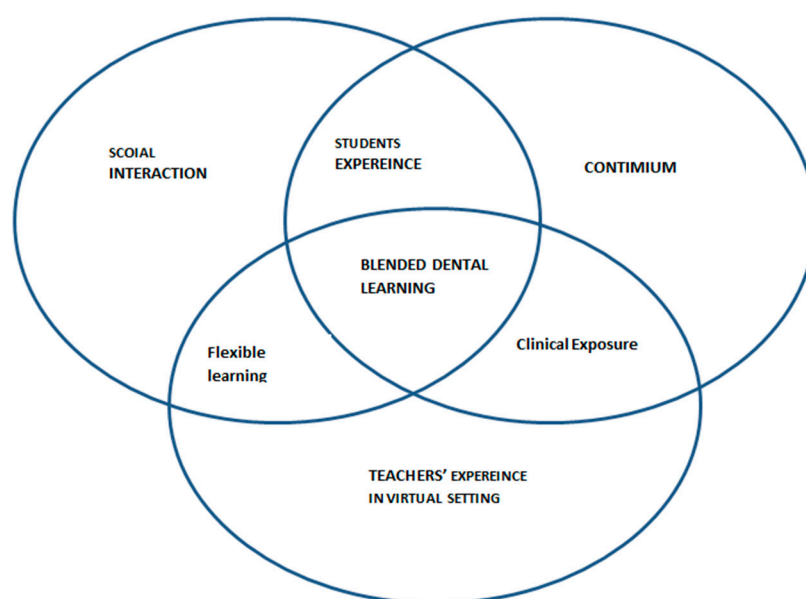


Figure 1. Blended and virtual learning model in dental education.

The interrelationships in this multifaceted experience have been generally regarded as positive. Social interaction and open communication are essential to students learning. Although challenging, the transformation to blended learning in the future of dental

education might be easier to implement than in other disciplines, given the essential requirement of clinical exposure.

The research question is, what is the students' experience of virtual learning in a blended setting during the pandemic in terms of positive and negative experiences, and if they perceive it as the way forward in the future of dental education? This study aimed to evaluate the students' experience of their education and related influences during the pandemic on the use of virtual learning in a blended setting. It also evaluated if students perceive their experience as a justification to consider its continuum as the preferred educational mode for future dental education.

2. Methods

2.1. Study Design

A qualitative approach was used to gain insight into the students' perspectives on online learning in a blended learning dental education setting. The qualitative design approach used non-numerical data of views, and experiences to gain insight into issues relevant to the research question. The Joint Committee for the Protection of Human Subjects in Research of the Health Science Center, Kuwait, provided ethical approval. A quantitative portion of this study was published, and now we are providing the data and analysis of the qualitative component [10].

2.2. Setting and Context

The setting was virtual focus groups of students who experienced virtual learning in blended learning from the Faculty of Dentistry, Kuwait University. Focus groups facilitate interactions between involved participants, helping them through group dynamics to develop new understandings and express views more than what can be reached by a one-to-one interview [11–13]. Focus group reflections occur through a process where meanings are constructed collectively, which can be regarded as more naturalistic [14]. Moreover, focus groups provide a collective voice in a non-threatening environment, allowing the building of and on participants' ideas. Therefore, participants have an active role and articulate their experiences on related issues. The data analysis co-occurs as data gathering as an ongoing process [11–13].

2.3. Participants and Procedures

Participants were a purposive sample recruited from students from the fifth, sixth, and seventh years, who participated in online and blended learning, at the Faculty of Dentistry, Kuwait University. A teaching assistant who was not involved in the students' education approached the students for recruitment into the focus groups. Participation was voluntary, and those who agreed to participate were ensured anonymity and confidentiality. They were also informed that they could leave the study at any stage without any consequences. Following informed consent, three focus groups were conducted virtually by HZ and NHA, who do not work at Kuwait University and hence were not involved in these students' education or assessment, ensuring adherence to ethical principles related to educational research.

Fifteen students agreed to participate in three synchronous online focus groups held via WebEx; each group was comprised of five students. The majority were female dental undergraduate students aged 20 to 24 years old. The facilitators of the focus groups were one female and one male. The focus groups were conducted impulsively, discussing views and experiences of virtual learning in a blended learning setting and the possibility of the future adoption of online and blended learning. Similar questions for the focus groups were used. These questions were piloted first, and after discussion between the authors, they were agreed upon. Added questions that responses triggered were allowed as a focus group policy.

The focus groups were effectively reflections-on-action as they were scheduled late in the academic year, which helped to gain in-depth insight into the experience. The conver-

sations and discussions were in English, the educational language; however, participants were allowed to occasionally speak in Arabic, the local language, to increase the width and breadth of their expressions of their experiences and hence increase the credibility of the data. The facilitator allowed participants enough time to share their thoughts and used prompts to explore responses further. The facilitator would only move on to the next question when they were satisfied that saturation was reached [14].

For anonymity, before starting the focus group, students were given numbers and instructed to mention their numbers every time they participated.

2.4. Analysis

The focus groups were recorded and then transcribed verbatim. To ensure the credibility of the content and trustworthiness, the transcripts were sent to participants for appraisal of the transcripts and requested to edit them if necessary. There were no requests for edits from the participants. The investigators then systematically and thoroughly read the transcripts several times and analyzed the data.

Thematic analysis was carried out independently by authors to classify, investigate, and report patterns within the data. It was a process of identifying codes and then constructing themes, which report on the set of experiences across the data [15]. The thematic approach reported by Braun and Clark in 2006 was used to analyze the transcribed data [16]. This involved the establishment of key themes and quotes that provide and confirm the evidence. The authors scrutinized the transcripts under each code, and at regular meetings (through Zoom), further data scrutiny was made to ensure credibility, that the related interpretations were adequate and comprehensible, and that they had connections and commonalities. An initial codebook was established and refined through discussions and consensus. The NVivo software version 12 plus (QSR International Pty Ltd., Doncaster, VIC, Australia) helped in data coding and to assemble them into units and then into themes. This also facilitated the revision, interpretation, and understanding, and the addition of new codes if necessary, since the policy and agreement on initial coding was that there would be flexibility to allow new codes to be added regularly. The transcripts were then finally coded using the revised final codebook, independently by authors (investigator triangulation), and any coding differences were reconciled through discussion (Appendix A). This was followed by a synthesis phase of documenting and preserving the range of experiences and common denominators since students' experiences during dental education can be variable and unpredictable, which may impact their learning. The investigators in this study had individual viewpoints and experiences, each bringing a distinctive insight to the analysis.

2.5. Trustworthiness

Validity in qualitative research is made through trustworthiness identification. A codebook developed through inductive and deductive approaches was used to establish rigor, validity, and inter-rater reliability [17,18].

Trustworthiness was also verified through reading the transcripts, several readings, re-readings, and refinements; all authors agreed on the final version to be effective for the analysis [17].

3. Results

Fifteen students (five students in each group) consented to participate in this study, which used online focus groups held via WebEx. The gender of the participants was fourteen females and one male, which is typical of the female-to-male ratio of the student body within the Faculty of Dentistry at Kuwait University.

The thematic analysis was carried out iteratively and inductively, and three themes emerged that interrelated with each other and to the research question. The three themes were as follows: i. the perception of the experience; ii. the teachers in the online learning platform; and iii. future continuum of virtual learning in a blended learning model.

3.1. The Perception of the Experience

The participants had limited experience in online learning prior to the pandemic; however, when conducting the focus groups, they developed the practical experiences to be able to reflect on their experience. Predominantly, participants seem to have enjoyed the educational experience. The reduction in time and cost needed to travel to and from university, as well as opportunities to combine education with other home comforts and commitments were some of the benefits mentioned.

"I actually really did enjoy online learning, way more than in person learning because it was in the comfort of my own home; it was a lot less stressful". (5th Participant 1)

They also described the experience as relaxing and informative, with a preference for the online platform. The relaxed atmosphere of working from home was again a significant factor.

I thought it was relaxing. I enjoyed it to be honest. I thought it's more relaxing than the actual lectures. (7th Participant 3)

It was a nice experience for me. And actually, if there is more online, I would be happy to do online lectures, much more relaxing than to be on site. (6th Participant 4)

However, one student described the experience as becoming tedious after a while.

"In the beginning to tell you the truth, it was very good, nice to me; but after a while, it got tedious just staring at the screen ". (6th Participant 2)

In their critical appraisal, some students still preferred the face-to-face mode of lecturing as they believed it helped them concentrate more than in the online platforms.

"It was definitely a new experience for us. Personally, I prefer to learn face to face, in person; I found that it helps me more to concentrate in the lectures when we take them in real life". (5th Participant 2)

In that comparative analysis between virtual and face-to-face learning, no differences were found between the two from their effectiveness point of view, narrated by a few students.

It was a new experience that we' were taking the lectures online, but we didn't feel much difference. (6th Participant 5)

The learning experience was almost the same. (7th Participant 3)

The ability to ask questions during lectures impacted on the experience.

"I think the overall experience was good, but personally, I feel like I'm more comfortable to ask questions on site rather than online. I think this was disadvantage." (5th Participant 5)

"It actually discouraged me from asking questions within the same lecture, like while the presenter is presenting." (6th Participant 2)

The instability of the internet and the related anxiety brought about some impact on the experience.

I find it sometimes was stressful when the network at our homes, for some reason does not work. And so I really get really stressed. (6th Participant 5)

On the issue of peer interaction, face-to-face peer interactions could not be paralleled or mirrored on the online platform since, in face-to-face interaction, it often occurs spontaneously; hence, students valued not only the face-to-face platform in the exchange of information on the academic level but also in informal discussions that they engaged in outside the classroom.

For me, I definitely missed the interactions between me and my colleagues. We used to chit chat before the lectures and stuff. I mean, we still did that during the virtual learning but it wasn't really the same. (7th Participant 5).

The necessity of student-to-student interactions was viewed as important in learning.

I think for like the student group work, it took away a lot from the interaction, you know, because the group work was all virtual. (7th Participant 1)

However, there was also a different perspective, in that the online interaction was better since it allowed shy students to interact more on the online platform.

"I think there was more interaction during lectures, because many shy students used to ask questions during the virtual but if it was a real life lecture, they won't ask. (7th Participant 3)

Nevertheless, difficulty with concentration was an issue for the online platform.

"I actually found it pretty different for the online lectures, in terms of like, it was harder for me to concentrate during the lecture, and it felt sometimes that I'm not even attending a lecture." (6th Participant 1)

The online examination experience in the virtual platform was viewed as particularly stressful due to the potential of internet stability issues.

"I think doing the exams online was very stressful. I prefer doing it at university just because you have so many things that you're worried about even more than the exam like things that could go wrong. I think exams should always be in person". (7th Participant 4)

Some felt that the virtual learning experience was influenced by the particular involved faculty member.

"Yeah, for me, the learning experience was actually dependent on the teacher. So if the teacher can catch my attention, it would be great". (5th Participant 3)

This brings us to the next theme which relates to the teacher in virtual learning in a blended learning platform.

3.2. The Teachers in the Online Learning Platform

The communication skills of teachers in a virtual setting and its impact on their ability to fulfill their teaching duties in this teaching platform were discussed at length.

Some teachers didn't know how to communicate with voice and video. (5th Participant 3)

The view was that some teachers appeared to find the online platform frustrating, particularly teachers who had a longer experience in teaching face-to-face.

For some professors, you can definitely see that with the virtual experience, they were very frustrated, and I think it was the professors who are like older, and because their teaching style changed so much virtually, they were more frustrated, and want it to go by faster. (7th Participant 1)

It seems the experience with technology was the critical factor in teachers fulfilling their duties and consequently influencing the perception of the suitability of the platform.

I think the doctors that are like tech savvy, and they're used to using their computers; they really enjoyed it and the others understandably, it was tough for them (7th Participant 4)

However, with time, the teachers' ability to use the online platform seems to have improved.

I feel like the more we used it, the more the faculty got the grasp of what's going on, the more. I felt like, okay, they know what they're doing, and now we're doing okay. (7th Participant 2)

Accordingly, the teachers' learning curves were perceived to be steep, leading towards faster improvement in online teaching in a short time.

Some of the faculty, they learned pretty quickly. (6th Participant 4)

It was also felt that the other significant factor was the faculty themselves and if they were interested in being proactive.

Definitely depends on the doctor because some doctors would just read through the slides very quickly, while others would take time to share their screen, to draw diagrams; sometimes they would like show us videos. So just depends, some doctors would put in the efforts, and some doctors would not, they would just read through the slide. So it depends on the doctor, really. (5th Participant 1)

This student narrated that the teachers' original teaching style was a factor in the effectiveness of online teaching.

"For some teachers they were just like, vomiting all the information. They don't want us to talk, if you have questions we have to ask after the lecture. But not all of the teachers were like that. Some of them liked to interact with us. It was fun to do that. And if we had any question during the lecture, it was fine with them to ask". (5th Participant 3)

In trying to find out if the teachers were proactive in teaching to their full potential to make the lecturing process effective, most felt that they used their full potential.

I think they were teaching to their full potential as best as they could. Because with online learning, the doctors can do as best as they can. (7th Participant 2)

Students reflected that they felt the teachers' effectiveness in the online platform would be affected by the circumstances in which this mode of delivery was introduced during the pandemic, which might have affected their performance.

The internet problem was not their fault. So I believe they did the best they could, given the circumstances. (7th Participant 2)

3.3. Future Continuum of Virtual Learning in a Blended Learning Model

Several factors made the choice of the continuum of blended/hybrid more favorable.

"I would be more enthusiastic to go through hybrid learning". (7th Participant 2)

It was partly driven by the comfort and convenience of the mode of education.

"Hybrid would be good, since, I don't have to drive in traffic". (5th Participant 3)

That narrative was more explicit with this student, describing how blended learning would be convenient in a busy dental curriculum and schedule.

"I think that hybrid would definitely be the best option. Because we have long days in school from 8:00 am to 5:00 pm, which is really exhausting, so I think it would be so much better for us if we had some recorded lectures and shorter days in the faculty or in the clinic hours. So I think hybrid would be the best option". (5th Participant 2)

One of the other influences on the choice of the continuum was related to specific disciplines, voiced by many in the 5th year, which may relate to their limited dental experience in that year, but was also narrated by the final-year students but may be to a lesser degree.

I think any other subjects other than Ortho and radiology would be better online. It's very hard to visualize radiology online because, especially the doctors, they need to teach us face-to-face. However, the other lectures, such as the other subjects such as periodontics, pathology, microbiology, medical problems and dentistry, don't require much interaction. (5th Participant 4)

"I think that clinical subjects should be taught live in the university. Well, subjects like microbiology or even pathology can be done online. So I prefer these to be online, but the clinical based, Periodontics, also across the rest of the clinically based subjects, I think I would benefit more if they were like the university taught live ". (7th Participant 3)

What also came across in what blended learning would provide, was the concept of independent learning, which was an encouraging thought since this is the basis for life-long learning, which would be desirable in any graduating dentist.

"I feel like it was more of an independent way of learning. And for me, it was a very nice experience". (5th Participant 4)

The rejection of the virtual mode as part of blended learning seems to be due to the absence of social interaction.

"I'm totally against going back to virtual learning. Even to hybrid. I think I like the 10 minutes; the five minutes break that we get between the lectures, the laughter, and the jokes. It's not just the learning during these years, its making friends, enjoying the time. So I think, like, the virtual will kill that part of the experience". (6th Participant 5)

Honestly, as much as the virtual experience was nice in terms of, like, being at the comfort of your own home. I think, just generally, it takes away from, like, the human-to-human experience. (7th Participant 1)

Another student had a more or less similar narrative; however, it was specifically related to the pandemic experience.

"It would kind of wear you down a little bit, just wear you out throughout the day, lecture after lecture staring at a screen. I think without your colleagues around you to kind of release the stress, it's kind of got very; it wore us out a lot by the end of it". (6th Participant 2)

There was also the perception that blended learning would be suitable for the busy and congested curriculum, where the day can be divided between virtual and face-to-face learning.

"If I had the option, like this perfect situation, would be starting off the day at school, like maybe in the clinic, so it would give me motivation for the rest of the day, and then just doing the rest virtually at home". (7th Participant 4)

Although the experience was forced on them during a stressful time, some students remained pragmatic and saw the future of blended learning as advantageous.

I think we've experienced the virtual learning. And it was forced on us during this pandemic, but it definitely has some advantages. And I think we should take this moving forward. So a hybrid learning style is better for me. (7th Participant 5)

One of the questions that was asked was what would your advice be to fellow students and faculty moving forward in a blended learning setting? Some participants advised fellow students on self-discipline as an essential requirement in online education.

"I think my biggest piece of advice would be self-discipline; if you're not going to discipline yourself for virtual learning, you're going to lose like the experience honestly. (7th Participant 1)

As far as advice to the faculty:

I think teachers need to have sessions to get educated about the online and how to use it. (5th Participant 3)

For the faculty, I would advise for them to be more familiar with technology to be more prepared. (7th Participant 2)

My advice to the lecturers is that we are there; we're listening, so like, be passionate about it when you speak. (6th Participant 2)

Improvement of communication skills again seems to be the advice to faculty that came across widely.

I think the more they communicate with us, the more they will deliver the information in a way that we will accept. So I think communication is very important. (6th Participant 5)

4. Discussion

This study investigated students' experiences of online and blended learning. Despite some challenges during the COVID pandemic, dental students in this study found the experience efficient, relaxing, and informative, and they could adapt to the continuum of the learning mode. Their preference was mainly due to its feasibility of combining education with other home comforts, commitments, and convenience [19]. Cheng et al., 2021 also found that their students' desire to change to online learning was due to its feasibility [20].

The advantages of blended learning are vast, including increased engagement and higher quality learning and motivation. The pertinent question is, can online and blended learning completely replace face-to-face education? Some students in the current study did prefer the face-to-face mode as they found it more attentive and interactive [21]. The students' voices in the present qualitative study highly rated blended learning. The present finding agrees with a previous study, where students voiced wishes to continue blended learning even after the COVID-19 pandemic; since blended learning had the advantages of increasing efficacy and self-regulated learning [22]. Qutieshat et al., 2020 showed improved student performance in blended learning environments, supporting blended learning as a mode of effective education [2]. Any rejection of virtual learning as a part of the blended learning model by some students seems to be due to the absence of social interactions. Noor et al., 2022 findings indicate that most students preferred face-to-face learning for the same reason [23]. The differences in effectiveness and efficiency between face-to-face and online education may not be as vast if the education process is interactive. Indeed, interactive teaching in one study, either offline or online, provided students with a similarly beneficial learning environment [24].

Students were apprehensive about online examinations. This seems to be related to the instability of the internet, which brought about anxiety and negativity. In Jordanian and Saudi Arabian studies, most students preferred traditional exams over online ones, similarly attributed to internet instability [25,26].

Students also cited formal and informal interactions as a problem in online education. Perhaps the report by Linjawi and Walmsley in 2012 on the formation of online discussion boards or groups would be helpful in any plan for future blended education since they were reported to have pedagogical effectiveness in dental education [27].

The communication skills of teachers in a virtual setting and their impact on the perceived suitability of this teaching platform were discussed at length [28]. Students' experiences indicated that the online platform was particularly frustrating for teachers with more extended face-to-face experience than those who were more computer-savvy. The ability to ask questions during online lectures also influenced the acceptance of online and blended learning. The interaction between teachers and students showed the lowest satisfaction, similar to what was found by Wang et al., 2021 in their study [29]. Noor et al., 2022 also found that 98% of their students found online learning lacked interaction with their fellow students [23].

Some students narrated that the teachers' teaching style was also a factor in the effectiveness of communication and online teaching. However, no evidence indicates if one teaching style is superior to other teaching approaches, no matter how good the educator is [30]. The primary influence is the organization and logic of the content delivered rather than the teaching style [31].

The outcomes of preference for blended/hybrid mode continuum were encouraging since it is a potential solution to the increasing global shortage of clinical academics locally and worldwide [32].

Regardless of the apparent challenges of online and blended learning, students also see the potential benefits and would like to capitalize on the opportunities that the pandemic has presented to improve their educational environment [10].

Limitations

A limitation is that participants may not have expressed their views and were cautious about openly doing that. Furthermore, their views and reflections on their early experiences during COVID-19 restrictions may have changed. Focus group deliberations may also be impacted by recall and response bias, social-desirability responses, and inaccurate responses, as participants may try to conform to specific standards and henceforth offer reactions that seem adequate by the researchers and facilitators [33].

This data and the analysis would have benefited from having an analysis of the experience blended learning, from faculty. However, this study was mainly designed to explore students' virtual and blended learning experiences. Future studies should include the faculty experience of blended learning in dental education.

Although researchers' triangulation was present, method triangulation was absent since only a qualitative method was used in this study. The initial intention was to have a mixed-method analysis of this study; however, the data that was produced was too large to include in one publication, hence we published the quantitative part separately [10].

The authors avoided as much as possible adding personal perspectives [34]. However, transcript interpretations may produce variable meanings. Furthermore, the investigation relates to this cohort's conditions and circumstances and therefore the generalizability of the findings may have their limitations; however, it can apply to similar cohorts and circumstances.

5. Conclusions

Within the limitations of this study, students perceived online and blended learning as more convenient, particularly in a busy and expanding dental curriculum. Several students felt some subjects may not be suitable for online learning. Although the students' experience was influenced by the pandemic, they remained pragmatic and saw the potential future of blended learning in dental education.

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Institutional Review Board Statement: The Joint Committee for the Protection of Human Subjects in Research of the Health Science Center, Kuwait (VDR/EC/3773, 1 September 2021).

Informed Consent Statement: Fifteen students (five students in each group) consented to participate in this study, which used online focus groups held via WebEx. This study was carried out at the Faculty of Dentistry, Kuwait University.

Data Availability Statement: The data of this study is available from the corresponding author on reasonable request.

Conflicts of Interest: The authors declare no conflict of interest.

Appendix A

Table A1. Code Book.

Code Label	Characterization	Account Description	Criterion	Example
The learning environment and experience	The virtual and blended learning improved my learning	Experiences of benefits and drawbacks from the experience	It could be with advantages or disadvantages	I felt more relaxed since I was just at home, in my comfort of my own place, and desk, and just listening to the lecture. It was more relaxing, you can, like have a drink, take a walk while the doctor is explaining something like do anything you want. But as long as you're listening. So it was in a much more relaxed environment, rather than being in the lecture (6th Participant 3).
Motivation during virtual and blended learning	More motivated to be able to take notes and concentrate	Efficiency in taking notes, focusing, and concentrating	Can be motivating or demotivating	I was very motivated at the beginning of virtual learning. However, with time I was less and less motivated every lecture or session (7th Participant 5).
Teachers' potential and experience	How did the teachers perform in the virtual and blended learning environment	Teachers' ability to perform their duties in the virtual and blended learning settings	Comparing teachers' performance in virtual and face-to-face learning	I think teachers need to have sessions to get educated about the online and how to use it. They need to, to work on how to utilize other stuff on their computers to interest us in their subjects. Reading the slides isn't enough. Giving us the chapters to read isn't enough. We need to learn how to interact with the students. I don't have any comments by the students, because as long as the teacher can capture your attention that would be good to know that's it (5th Participant 3).
Interaction	The virtual and blended learning may have an effect on teacher-to-student or student-to-student interactions	Students' experience of the interaction between students and with teachers	A virtual environment may or may not limit interactions between students and with teachers	Yes. I would agree with what number one said. I missed the actual interaction with the doctors and my colleagues in the lecture rooms. But it was difficult in the beginning to get used to the online, and the new experience, to get used to the lectures being online. And then I could, I managed to get used to it. And I was able to concentrate during the lectures (6th Participant 3).
Role of the Faculty of Dentistry	The Faculty of Dentistry's role in promoting the effectiveness of virtual learning	The experience of how the Faculty facilitate virtual learning	The Faculty may be supportive or unsupportive to virtual learning	I felt that they let us learn everything in a rush, that we didn't have the time to digest the information that we had learned. It was just difficult to absorb all of that information in such a short term (5th Participant 2).
Examination experience	The difference between virtual examination and traditional examination and assessment	Students' experience of the examination process	Students may have found virtual examination more or less stressful	It was a horrible experience, and then we had some internet issues, and then we had to explain to the teacher that oh, we had an internet issue. (5th Participant 2)
Views on continuum in virtual and blended learning	After their experienced of virtual learning, if they feel there should be a continuing of virtual learning	Students' voice on the need of continuum of virtual learning or to go back to complete face-to-face learning	Students may want to continue in virtual or a hybrid/blended format or return to face-to-face learning	I think we've experienced the virtual learning. And it was forced on us during this pandemic, but it definitely has some advantages. And I think we should take this moving forward. (7th Participant 5).
Advice to fellow students and teachers on virtual learning	The advice that can be offered to fellow students and faculty regarding virtual and blended learning	Students to fellow students and to faculty	Students' advice on how to engage in virtual and blended learning	My advice for my fellow colleagues is to don't be shy to ask questions. Even, like, you don't hesitate at all, because it makes the environment of the lecture, virtual lecture more friendly. And my advice for the doctors or the lecturers is to actually like, whenever someone, like, I think this applies to the real life lectures as well. Whenever someone was passionate about the subject, or you're lecturing about the information, like gets to us more easily, and it's easier to concentrate to them. (6th Participant 2).

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