

# Challenges in Engaging Students during an Online Health Professions Education Course: An Exploratory, Qualitative Study

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## ABSTRACT

**Objectives:** Multiple challenges have raised in medical education after the pandemic due to transition from face-to-face to online learning. One of the major issues faced is related to student engagement. This study aimed to understand the challenges of student engagement in online learning for a health professions education program.

**Study design:** Qualitative explorative study.

**Place & duration:** The study was conducted in the medical education department, institute of health professions education and research, Khyber medical university, Peshawar, Pakistan. For the purpose of data collection, three institutes were involved: Khyber Medical University (KMU), Riphah International University (RIU) and University College of Medicine & Dentistry (UCMD). All three institutes were conducting Masters program in Health Professions Education (MHPE). The study was conducted from 28/02/2021 to 31/08/2021.

**Methodology:** A total of 12 students and six faculty members were recruited from three different Masters in Health Professions Education (MHPE) programs in Pakistan. Semi-structured interviews were recorded on Zoom, two variables assessed on interviews were, defining online student engagement and challenges of student engagement in online learning. The interviews were transcribed onto MS Word files. The files were imported into NVivo v12.0 and analyzed to determine any emergent themes and sub themes.

**Results:** A total of four main themes and eleven sub themes emerged. The themes were: lack of motivation, distractors, lack of faculty development and non-conductive environment.

**Conclusion:** The participants identified lack of student motivation and interest in online learning; technical challenge such as internet connectivity; lack of faculty training; household distractions and a non-conductive environment such as a large class size as the main challenges for online student engagement in a MHPE program.

**Keywords:** Student engagement; medical education; online learning, health professions education, student participation, digital transformation.

## INTRODUCTION

In many parts of the world, the digitalization of medical and dental education had been a slowly occurring process over the past few years. However, in developing countries such as Pakistan, almost all medical and dental education had continued to be imparted through the traditional, face-to-face methods. In March 2020, a nationwide lockdown was imparted in Pakistan, with all educational institutions having to close down. In a state of emergency, medical and dental colleges had no choice but to shift their learning sessions to online platforms. Both medical teachers and students faced a wide number of challenges due to this sudden transition. This included internet connectivity; faculty development; student motivation; availability of online learning and teaching tools and the use of different software for online teaching among others. One major problem medical teachers faced was keeping the students engaged and motivated.

There have been serious impacts on medical education around the globe due to the Covid-19 pandemic<sup>1</sup>. Many researchers and educators are interested in online learning to augment and improve student-learning outcomes<sup>2</sup>. The discussion and research on the quality of online teaching and learning, student engagement & satisfaction has been going on by both advocates and opponents of online learning<sup>3</sup>. With the sudden change and uptake of online learning, due to the pandemic, such discussion has much importance as it is connected to the future of teaching and learning in technology-based learning environments. In this pandemic, students need to keep involved in the educational activities, for which online learning is the primary mode of communication and learning<sup>4</sup>. Simulating a classroom environment in e-learning platforms is a great challenge. This abrupt and unforeseen shift of conventional and traditional learning to completely virtual learning demands proper understanding of this new system both by the students as well as the lecturers<sup>5</sup>. Health profession educators are nowadays integrating technology into their curriculum to enhance the learning by innovations. Embracing connectivism into the medical education curriculum

requires the effective learning process to be interactive, usable and relevant. Gamification in medical education is a new way to engage students in the development of their skills like history taking and diagnosis. Teaching psychomotor skills is still a great challenge in the distance learning. Multidisciplinary collaboration is possible through this digitalization guided by connectivism<sup>4</sup>. This will increase the exposure of the students to million folds, making them more competent and confident in their respective fields.

One of the challenges of online learning is to engage students<sup>6</sup>. Creating a successful online environment requires engaging students in learning<sup>7</sup>. However, learners who feel disconnected do not engage in online learning<sup>8</sup>. Instructors design & facilitate online courses, thus, they must incorporate student engagement in online courses. Engaging students in online learning creates an opportunity for students to take responsibility for their learning. Student engagement is one of the factors that determine the success and quality of online learning<sup>9</sup>. Important activities designed for engaging students include gaining attention, pre-inform students about learning objectives, stimulate recall of prior knowledge, present content material, provide learning guidance, elicit performance, provide informative feedback, assess performance and enhance retention and transfer<sup>5</sup>.

The masters in health professions education (MHPE) program produces a qualified medical teacher and a professional leader<sup>10</sup>. The number of MHPE programs in Pakistan have increased from one in 2009 to eight in 2018<sup>11</sup>. MHPE programs have gained interest of the medical and dental educators to improve their academics and quality of delivering lectures. This new trend among the educators will impact the quality of medical and dental education immensely hence generating a more competent product out of the universities. These programs are designed on a blended format that is a face-to-face component alternating with a distance-learning phase of few months. Moreover, the students enrolled in MHPE programs are healthcare professionals who come from either a clinical or basic medical sciences background. A medical education program specifically

focuses on educational and learning theories that have a psychological dimension as well. Since these students are not used to this style of learning, this in itself is a challenge for them. Moreover, the online transition of learning has been an added problem. Students face challenges in the blended MHPE program<sup>12</sup>. Due to pandemic, the program is shifted completely to online mode. Currently, no literature exists that reports the challenges faced by MHPE students in online engagement.

Therefore, this study will contribute to the improvement of MHPE program through exploring the challenges towards student engagement in online learning from the perspectives of both students and faculty. It may provide guidance for educators, faculty members and curriculum planners. The study will determine and evaluate the challenges faced by the lecturers in engaging the students in online learning in health profession education program. This will help the health profession educators to make the online learning effective for the students as online learning has emerged to be the only mode of knowledge transfer during this pandemic era. That is why there is a need to improve the efficacy of this learning curve by understanding the shortcomings of this process of learning. This will engage the students successfully, thereby improving the learning process and helping them achieve the required competencies. This study was designed to understand the challenges towards student engagement in online learning in a health professions education program.

**METHODOLOGY**

This qualitative, explorative study was conducted in the medical education department, institute of health professions education and research, Khyber medical university, Peshawar, Pakistan. The duration of study was from 28<sup>th</sup> February to 31<sup>st</sup> August 2021. For the purpose of data collection, three institutes were involved: Khyber Medical University (KMU), Riphah International University (RIU) and University College of Medicine & Dentistry (UCMD). All three institutes were conducting the MHPE sessions online due the pandemic. Ethical approval was thus taken from the Ethical Review Committees of all three institutions.

Purposive sampling was used for recruiting participants for the study. MHPE faculty and students from these three institutions were incited to participate in the study. All the students and faculty who attended the online MHPE sessions fulfilled the inclusion criteria and the students and faculty who did not attend the online sessions were excluded. A total of 12 students and six faculty members participated in this study. The participants were invited for online interviews. The participants along with verbal consent signed the informed consent form prior to the start of the interviews. Voluntary participation was made certain. The participants were briefed in advance that they could withdraw from the research process without any consequences to them. Participants were also assured of confidentiality and anonymity regarding all the information. It was agreed to share the results of the study on their requests. In depth, one to one, interviews were conducted using Zoom. The primary researcher was the interviewer as well. Questions were asked to inquire the

participants' perceptions regarding the challenges they were facing regarding students' engagement during online teaching of the MHPE program.

The interviews were recorded on a laptop and a mobile phone. The audio recorded files were then transcribed verbatim on MS Word. The transcribed interviews were then sent to the participants for ensuring credibility and triangulation. To ensure confidentiality of participants, the files were numbered in numeric in a sequence, **S** representing students and **F** representing faculty. Thereafter, Computer Assisted Qualitative Data Analysis (CAQDA) was carried out using NVivo 12.0. All interview files were imported onto NVivo. Inductive, thematic analysis was then conducted. Emergent files were coded into individual nodes. The finalized node files were exported to MS Word. Emergent themes were then identified. The themes were recoded into themes and subthemes. A total of four themes and 12 sub-themes for challenges were identified. To ensure conformability, the interviews and themes were discussed with a Medical Education expert. For triangulation purposes, three researchers were involved in the coding process and the emergent themes were finalized once all the researchers had reached a consensus.

**RESULTS**

A total of 12 students and six faculty members were interviewed for the study. Table 1 shows how many students and faculty members were interviewed from each institution.

Table 1: Details of participants

Participants	Students	Faculty
RIU	4	2
UCM & D	4	2
IHPER, KMU	4	2
Total	12	6

All interviews were coded through NVivo v 12.0. The interviews were coded into different nodes. A total of 32 nodes were identified in the initial coding. These nodes were then re-analyzed. Student engagement definition was identified as a separate theme, the frequency and distribution of nodes under this heading have been highlighted in table 2.

Table 2: Frequency and distribution of nodes in student engagement definition

NODES	FACULTY	STUDENTS	TOTAL
Engage	F1, F3, F4,	S2, S6	5
Productivity	F1, F6	S2	3
Involved	F2, F3, F6	S12, S7, S8, S9	7
Motivated	F5		1
Understanding	F5	S3, S5	3
Interest		S10, S11, S2, S4, S5	5
Attentive		S10, S7, S9	3
Interaction		S11, S12, S3, S8, S9,	5
Participate		S1, S12, S3, S4, S5, S7, S9	7
Student centered	F1	S1	2

Table 3. Challenges Faced in Student Engagement During Online Classes

THEME	SUBTHEME	QUOTE
Lack of Motivation	Lack of interest	"when I ask them again and again to turn on their cameras do certain things or get involved in certain tasks, they still don't do it because they know they can get away with that easily..... all I see is a head with some eyes I am not even sure if they are on the same screen of zoom or they are doing something else"
	Lack of students' interactions	"all participants of the small group were also not sometimes fully participative. At times, people would appear online but would not be there for interaction. At times some of the participants would say totally quiet during discussion. So this was a challenge for me."
Distractors	Over participation by students	"Least engaging activities were when a single person starts speaking, concentration and interest is lost after some time."
	Household interruptions	" we were at home with everyone else so I think it was difficult sometimes due to family responsibilities and some times during the regular classes our timing was from 8,9 in the morning to 4 in the evening so it was same for online classes. Being at home it was difficult to concentrate and engage personally."
	Internet/social media	"along with taking the classes like we are also using our WhatsApp group for the materials

		shared by the facilitator at the same time we were also receiving you know the messages from other WhatsApp contacts so these were distractions as well."
Lack of Faculty development	Lack of training	" if they are not very good at that, actually, leads to incompetencies in managing e-learning."
	Less engaging activities	"facilitator sent a message that this is your topic and you will present when the session starts, so in that there was no engagement, when session started only the presenter spoke and others did not participate much."
Non-conductive environment	Large class size	"if the class strength is big for example with 25 and 30 students the student engagement will be less also if the facilitator is not trained enough for student engagement it will be less."
	Technical issues	" I had some internet connectivity issue on my part and I used to listen partly (as) I was not involved in those times."
	Long online sitting hours	"long sitting hours became so hectic there was a lot of stress generated during online sessions, in face-to-face session that is less painful to the body as physically we are not that handicapped. My eyes and back were hurting at the end of the session at 4 or 5 o'clock. I think in live session concentration is better while in online session attention diverts to other things."
	Lack of peer interaction	"When you are in an online environment you don't have your colleague with you so the break out rooms concept in online classes was less engaging then face to face sessions."

Four main themes and 11 sub-themes were identified regarding challenges faced during student engagement. The main findings of this theme are outlined in table 3. The four main identified themes were lack of motivation; distractors; lack of faculty development; and a non-conductive environment.

## DISCUSSION

There is no reported literature assessing the challenges of online engagement among students of health professions education. In the present study, the participants reported a general lack of student motivation to be one of the main themes as a challenge for online engagement. Group activities were arranged in online breakout rooms. While some participants actively participated in online discussions, others were reported to be silent and thus, did not participate in such activities. Elshami et al assessed satisfaction with online teaching 370 medical students and 81 faculty members. The majority of faculty members ( $n = 46, 65.7\%$ ) thought that student participation was much lower in online sessions as compared to face-to-face sessions. The students reported that interactive activities such as games helps them to participate in online learning better<sup>13</sup>. Martin and Bollinger reported that peer teaching which involves activities promoting peer collaboration resulted in improved engagement among students<sup>14</sup>. This lack of participation may be associated with the lack of interest as reported by several students. Furthermore, faculty members reported that it was quite difficult to get some students to respond online. Some of them kept their cameras off despite being told to turn them on. One faculty member even considered such notions to be a sign of disrespect. Teaching an audience with the cameras turned off can be quite difficult for a teacher as it gives a feeling of teaching a blank audience that may or may not be present on the other end. Similarly, for students having the cameras turned on promotes positive behaviour. However, keeping the cameras constantly on may lead to a certain phenomenon, termed as 'Zoom fatigue'. Also, keeping the cameras on may be a factor of psychological safety for some students<sup>15</sup>. In addition, keeping cameras on requires extra internet bandwidth. In a developing country such as Pakistan where a significant proportion of students have faced internet connectivity issues while having online learning during this pandemic, compromising the bandwidth is a major issue. It is technically quite difficult for many students to keep the cameras on. Thus, the results of the present study suggest that keeping a rule of having cameras on should not be made mandatory for students.

Some students reported that distractions and interruptions from other students led to loss of focus and engagement. Some students would attempt to dominate a session by speaking at every opportunity they had. One of the teachers reported that if some students were digressing, they tried to bring the discussion back to the main topic. A study by Zureick et al on first year medical students suggested that distractions during lectures – both synchronous and asynchronous – negatively impacts learning

outcomes<sup>16</sup>. Since many of the students were taking their online classes from home, interruptions from family members were also a common problem. Sometimes children would barge into the room. At other occasions, they had to get up to sort out house chores. When the lecture being delivered is a continuous monologue that puts the students in more of a passive state. At this point, any distractions especially those from the household may easily lead the students' attention away from the online session<sup>17</sup>. Moreover, since the students had made WhatsApp groups for their discussions, they kept their phones on. This meant that other personal WhatsApp message notifications kept on buzzing throughout the day, leading to a major barrier or challenge for student engagement.

In a study by Nalliah and Allareddy, third year undergraduate dental students were distributed into two groups. The students were asked to attend a lecture. One group ( $n = 17$ ) was distracted through Facebook messages, emails or texts, while the other group ( $n = 9$ ) was not interrupted through any interruption. After the lecture, a quiz was conducted for the whole sample. No difference in the test scores was found between the distracted and non-distracted students<sup>18</sup>. Firstly, a very small sample size was recruited. Secondly, the intervention was tested by only a 12-item quiz. Finally, this trial was done in a face-to-face session. The results should be generalized to an online format with caution.

Lack of faculty expertise was identified as one of the main challenges in online medical education. Students opined that since the faculty were not trained well enough, they opted for teaching methods which drastically reduced student engagement and impacted their learning. This behaviour included using lengthy monologue didactic lectures, giving students articles to read, then making presentations on those articles, and keeping the interaction with the students at a minimum through their sessions. Since most of the medical education faculty had no prior experience with online teaching prior to the COVID-19 pandemic, the sudden transition to online teaching turned out to be a major challenge for them. Faculty members have had to struggle to adapt to the online teaching platforms<sup>19</sup>. As a result, student learning and engagement has suffered. The perceptions of the participants in our study agree with this as well. Moreover, some teacher's found that since the presence of students was only virtual, the element of respect seemed to be missing. Furthermore, some teachers also seemed to be disinterested with the whole online learning concept. They would not turn on their cameras and even when they did, they would avoid making eye contact with the camera. In an integrative review, Doherty et al identified the negative attitude of medical teachers towards online learning and learning digital tools as among the most fundamental barriers towards the effectiveness of online learning<sup>20</sup>. Promoting a healthy culture to promote a positive attitude and maintain a conducive environment for learning of digital tools and having IT support are some measures that have been recommended to change this attitude.

Non-conducive Environment for Learning was reported as a significant challenge for lack of engagement since the students did not get to physically interact with each other. The students complained that the size of the class was large and thus, it was difficult for any teacher or facilitator to manage this class strength in the online environment. Internet connectivity and power shutdowns were identified as some of the most significant challenges creating a non-conductive environment. Almost all participants reported internet issues as a challenge for maintaining engagement during online sessions. Rajab et al. reported internet connectivity to be a major barrier to online learning in Pakistan<sup>21</sup>. Li et al recommended that in order to counter problems related to high-speed internet availability, teachers should upload short, low-quality videos for students so that they may access them asynchronously<sup>22</sup>.

## CONCLUSION

To sum up, multiple challenges for online student engagement were identified in this study. Students' lack of motivation and hesitance to participate in-group activities was described as a major challenge. Other students were also reported to interrupt learning sessions and digress away from the topic being discussed. Internet connectivity issues were seen as a common problem in our country. Another major issue was lack of faculty development. The majority of medical teachers in Pakistan were not used to digital tools for learning. However, if meticulous steps are taken, these challenges may be overcome. Future studies should also analyze video recordings of online sessions to identify other challenges.

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### Contribution of authors:

Dr. Sana Khan: Conceived idea, designed research methodology, literature search, data collection, data analysis and manuscript writing.

Dr. Brekhna Jamil: Draft modification, proof reading and final approval.

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