COVID-19 and online learning: Challenges, benefits, and intrinsic motivation of Bangladeshi private university students

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ABSTRACT

The COVID-19 pandemic caused many educational institutions, including private universities, all over the world to shift to online education, and Bangladesh was no exception. However, the transition presented numerous obstacles. The purpose of this paper was to determine what motivated private university students to continue their online education during the pandemic despite the challenges. The challenges and benefits reflected by students regarding online education were also discussed in this study by applying thematic analysis through a mixed-method approach. Further, to investigate the factors that intrinsically motivated the learners, Self-Determination Theory was employed as a theoretical framework. A total number of 80 students from different private universities, both male and female, participated in this study. Findings revealed that most of the learners of online classes faced challenges in several issues, such as poor technology and internet facilities, financial constraints, unsuitable home environments, deterioration of physical and mental health, and insufficient feedback. Besides, this study discovered that despite the challenges, learners were intrinsically motivated to continue learning during the lockdown as competence, relatedness and autonomy were ensured. These findings would be essential guidelines and implications for educators and university authorities of private universities for making better policy choices for online classes in the future.

Contribution/Originality: This study discovered that the students were intrinsically motivated to continue online learning despite multiple challenges. The findings will enable educational institutions to emphasize learners' intrinsic motivation to create efficient online learning facilities and resources for future pandemics or similar situations and ensure the continuity of learners' quality education.

1. INTRODUCTION

The COVID-19 pandemic was designated by the World Health Organization (WHO) as a "Public Health Emergency of International Concern" (WHO, 2020), which impacted people's health, national economy, trading, and education (Khetrapal & Bhatia, 2020; Marois, Muttarak, & Scherbov, 2020; Seetharaman, 2020). The government of Bangladesh also enforced a lockdown in March 2020 (Hasan, Abdullah, Shovon, & Rahman, 2020; Shahriar et al., 2021), which also included the closure of educational institutions, creating a substantial educational gap (Mahmud, Dasgupta, Das Gupta, Hasan, & Kabir, 2021). During COVID-19, a significant shift from traditional to face-to-face online learning programs was made to diminish the disruptions in tertiary educational institutions (Al-Tammemi, Akour, & Alfalah, 2020; Kaur, 2020). Likewise, in Bangladesh, the University Grants Commission

(UGC) mandated the incorporation of new technology for virtual learning (Abbas, 2020) in order to prevent educational disruptions for learners who were facing academic challenges (Ahmed, 2020).

Online education has certainly been one of the strongest ways of teaching and learning to resolve the academic crisis (Al-Amin, Al Zubayer, Deb, & Hasan, 2021) and the only solution to the educational crisis during COVID-19 (Dutta & Smita, 2020; Khan, Rahman, & Islam, 2021), and like other developing countries, Bangladesh is attempting to adapt to such education, especially the private educational institutions (Rahman, Uddin, & Dey, 2021). Learners' motivation plays an important role in such adoption (Zhu, Zhang, Au, & Yates, 2020). Several studies have pointed out that learners' motivation is a noticeable factor affecting learning outcomes (Brooker et al., 2018, as cited in Rahman et al. (2021)). Before the COVID-19 era, 90% of students in Bangladesh participated in face-to-face or traditional classes (Rahman et al., 2021). As online classes are a reality, to implement an online learning environment, it is important to know the motivation level of students.

According to self-determination theory (SDT), intrinsic motivation is the learners' innate tendency to move towards growth (Ryan & Deci, 2000). To elaborate, students' intrinsic motivation (IM) may stimulate them to work towards their educational goals (Wang, 2017). The relevance and inclusivity of IM in SDT as a theoretical framework for investigating the fundamental psychological needs of students in the context of online learning during the COVID-19 pandemic are well-founded (Wang, 2017).

Multiple studies (Bhuiyan, 2022; Dutta & Smita, 2020; Emon, Alif, & Islam, 2020; Mahmud et al., 2021; Rahman et al., 2021) have been conducted in Bangladesh to examine online learning during COVID-19 analyzing the education system, comparing students' perceptions, evaluating the quality of online education and the importance of motivation in online learning. However, hardly any research has been done explicitly on Bangladeshi private university students, focusing on the factors that intrinsically motivated them to continue online classes despite the drawbacks. For effective online learning, optimizing learners' IM levels that support their fundamental psychological needs, such as autonomy, relatedness, and competence to assist learning (Virtanen, 2022). Therefore, this study attempted to gain insights into what intrinsically motivated private university students in Bangladesh to engage in online learning during this challenging period. The following objectives were formulated in response to the highlighted gap and argument:

1. What challenges and benefits did the learners of the private universities of Bangladesh experience in online learning during the COVID-19 pandemic?

2. What factors intrinsically motivated the learners of the private universities of Bangladesh to continue their online learning during the COVID-19 pandemic?

2. LITERATURE REVIEW

2.1. Context

Due to the unpredictable and long quarantine periods during COVID-19, the study habits of students began to give rise to dysfunctional learning behaviour (Meo, Abukhalaf, Alomar, Sattar, & Klonoff, 2020). Assessments were being postponed or cancelled, interrupting students' learning and adding stress (Burgess & Sievertsen, 2020). To overcome this disruption, from the beginning of the COVID-19 phase, there was a drastic shift from traditional classroom learning to online classes for tertiary-level education in almost all countries in the world (Basilaia & Kvavadze, 2020; Jacob et al., 2020).

Similarly, in Bangladesh, to avoid educational disruption for students, the University Grants Commission (UGC) ordered universities to adopt new technology to implement virtual learning (Abbas, 2020) in over 5000 tertiary educational institutions that were suffering academic disruption (Ahmed, 2020). Online education was certainly one of the strongest ways of teaching and learning to resolve the academic crisis during COVID-19 (Al-Amin et al., 2021) in educational institutions, including Bangladeshi private universities (Dutta & Smita, 2020; Khan et al., 2021).

2.2. Online Learning

Online learning is the modern version of learning experiences through technology (Benson, 2002; Conrad, 2002; as cited in Moore, Dickson-Deane, and Galyen (2011)) which allows learners to access nontraditional learning platforms. It is recognized as a more modern form of remote education that increases access to educational possibilities for students who are defined as unconventional.

2.3. Challenges and Benefits of Online Learning

Online education has several challenges, such as the initial struggle to adapt to virtual classrooms, unreliable signals, costly internet, digital illiteracy, struggle to understand online materials, trouble communicating with classmates and teachers (Alam, 2020; Alawamleh, Al-Twait, & Al-Saht, 2020; Rahman et al., 2021). In addition, challenges of online education includes unavailability of technical support, financial burden, lack of structure and flow of classes, negative home environment and physical and mental health issues (Brooks et al., 2020; Dong, Cao, & Li, 2020; Dutta & Smita, 2020; Nambiar, 2020). Nevertheless, there are several benefits of online learning which includes saving time on travel and commute, flexibility in attending classes, and availability of recorded classes (Nambiar, 2020), allowing students to continue education during the crises leading to complete the semesters on time, making them confident to undergo online tests, and establishing strong communication between students and teachers (Alam, 2020).

2.4. Motivation for Online Learning

Deci and Ryan (1985) first developed SDT, a comprehensive theory about human motivation that explains the dynamics of human desire, motivation, and wellness in a social setting. IM, the pinnacle of SDT, initiates behaviour for its own sake. Deci and Ryan (1985) defined intrinsic motivation as the act of engaging in an activity for the inherent satisfaction it offers rather than focusing on specific outcomes (as cited in Gustiani (2020)). Simply put, learners driven by intrinsic motivation actively engage in their learning process to achieve their goals and personal growth, seeking no other reward except for a deep understanding of the subject matter. In this regard, according to Virtanen (2022), meeting the three psychological needs of SDT (competence, relatedness, and autonomy) is essential.

Virtanen (2022) has mentioned that competence is the learners' confidence in doing something to achieve effective and desired outcomes. Providing learners with constant access to easily understandable information in online learning is an excellent strategy to assist them in attaining competence. Furthermore, establishing clear objectives assists learners in comprehending the expectations placed upon them, ultimately fostering the acquisition of competency. Moreover, breaking down online activities into manageable challenges enhances a sense of competency by tailoring the learner's learning paths and content. Apart from these, competence in SDT for online learning is correlated with receiving timely and informative positive feedback.

According to Virtanen (2022), relatedness is the need to feel connected, be heard, valued and appreciated. Online learning tools facilitate the development of a sense of connection among learners, and the initial step involves introducing a social learning environment where learners feel appreciated, experience a sense of belonging, and feel at ease to inquire and exchange experiences through social interactions. Additionally, learners have to feel connected with their peers through group activities and interaction.

Virtanen (2022) added that SDT emphasizes learners' desire for autonomy and personal choice. Providing online learners with chances to have control over their learning experiences and remain authentic to themselves is crucial. One way to provide learners freedom is to ensure enough flexibility in learning programmes, allowing learners to govern their behaviour by giving them the option to choose how, when, and where they see the content of their online classes.

2.5. Existing Studies on Motivation in Online Learning

Different studies reveal that online courses are conducive to students favouring self-regulated learning (You & Kang, 2014; as cited in Alam (2020)). In their study, Ong et al. (2022) found autonomy to have the highest direct significant effect on students' happiness in online learning during the COVID-19 pandemic. This means students tend to be intrinsically motivated when they have the freedom to manage their tasks, cope with challenges, separate home and academic responsibilities, follow a flexible schedule, and handle their workload. Relatedness was the second variable that significantly impacted students' happiness (Ong et al., 2022). This refers to students' relationships with parents and peers and has a direct positive effect on their IM. Contrarily, Ong et al. (2022) found competence to be a negative predictor of students' happiness during online learning because when students gain more knowledge about the COVID-19 pandemic, it tends to decrease their IM due to worries and fears. Gustiani (2020) found that internal factors highly motivated learners while participating in online learning during COVID-19. It was discovered that the students' motivation for online learning was mostly affected by their desire to learn new things and enjoyment of trying new learning instructions. In a study done by Chiu (2022) during the COVID-19 pandemic, it was established that online learning can better satisfy the psychological needs of the learners, and when these needs are met, students experience a sense of autonomy, competence, and relatedness, which are important for their IM. However, Corpus, Robinson, and Liu (2022) mentioned that the COVID-19 pandemic impacted students' IM. These impacts included decreased enjoyment, curiosity-driven engagement, and the perception of achievement. This decline in IM among students during the pandemic could be attributed to reduced support for fundamental psychological needs like competence, relatedness, and autonomy.

Previous studies in Bangladesh have explored the perceptions of tertiary students in Bangladesh regarding online classes, highlighting various challenges, benefits, and implications for education policymakers, universities, instructors, and students (Dutta & Smita, 2020; Emon et al., 2020; Mahmud et al., 2021). Nonetheless, despite the pioneering role of Bangladeshi private universities in online classes during the pandemic, there exists a notable research gap focusing on the experiences of the learners within these institutions. Therefore, one of the objectives of this paper is to explore the challenges and opportunities faced by these students. In addition to that, despite the constraints, limited attention has been given to examining the intrinsic motivations of private university students and their determination to continue with online classes. While some studies abroad (Corpus et al., 2022; Gustiani, 2020; Ong et al., 2022) have explored learners' IM in online learning during the pandemic, hardly any research has been done focusing on the factors that drive Bangladeshi private university students to persist with online classes despite the limitations posed by the pandemic. This paper attempts to fill this gap by conducting surveys and interviews to gain insights into what intrinsically motivates private university students in Bangladesh to engage in online learning during this challenging period. So, it is crucial to identify the factors that serve as intrinsic motivators for learners to refine them and foster long-term sustainable development in case of another unexpected pandemic or similar circumstances.

3. METHOD

3.1. Methodology

The nature of this research is mixed-method research. For the data collection, the researchers first collected quantitative data and then gathered qualitative data for a better understanding of the quantitative results. The best outcome and diverse justification come from combining quantitative and qualitative approaches to research problems (Creswell, 2014). Moreover, to gain a comprehensive understanding of students' online learning experiences, it is recommended to construct an investigation from several perspectives (Nemoto & Beglar, 2014). Since the quantitative data and results usually provide a general picture of the research problem, the researchers have also collected qualitative data for extended analysis of the research problem. The quantitative data was collected randomly from the participants in the first phase; therefore, an in-depth qualitative exploration helped to elaborate the findings in the quantitative section. A wide range of literature (Alam, 2020; Dutta & Smita, 2020;

Gautam & Gautam, 2021; Nambiar, 2020; Rahman et al., 2021) was explored in the study to develop the questionnaires. Moreover, the questionnaires also incorporated insights gained from the students' perceptions through a survey to conduct a comprehensive interview among students from different private universities in Bangladesh. A pilot test on a small sample of learners was undertaken to ensure the validity and reliability of the questionnaires. Later, revisions were made based on the feedback received from the pilot test participants before full implementation.

3.2. Participants

This research collected data from 80 undergraduate students from private universities, namely, Brac University, North South University, Daffodil University, Santo Mariam, AIUB, and South East. They were first-year and second-year students from different departments. The age range of the participants was from 18 to 21 years, and there was a combination of both male and female students.

Survey questionnaires and interviews were used as instruments for this research. While many public universities were lagging in successfully implementing online classes due to financial and technological crises (Ahmed, 2020), private universities took the initiative to introduce and conduct online classes. Thus, all the participants of this study were from private universities in Bangladesh.

3.3. Data Analysis Method

The six-step thematic analysis method developed by Braun and Clarke (2006) was used in the data analysis process to find, examine, and present data patterns. This method was chosen for its accessibility and theoretical data analysis flexibility. Thematic analysis method has been used in similar sorts of studies focusing on the perception of students in Bangladesh (Dutta & Smita, 2020; Ela et al., 2021). During the data analysis, it was essential to conduct a detailed examination of the data collected to identify the frame of the themes (Ela et al., 2021). So, the three researchers analyzed the data by focusing on and categorizing it under themes. Furthermore, following the survey and the interview, researchers considered relevant issues to include based on the consensus among them. Meanwhile, inconsistent issues generated from the interviews were fixed and, in some extreme cases, excluded after a careful evaluation and thorough discussion among the researchers. Members of the research group analyzed the quantitative and qualitative data to determine the overall perception and experience of the students to find out the motivational factors. A comprehensive analysis was confirmed using data-driven insights and an existing theoretical framework with the help of these approaches. These were then compiled according to the research questions.

3.4. Survey Questionnaire

A survey questionnaire was employed to understand the remarks of online students regarding their experience of online learning. Data were collected utilizing an electronically distributed questionnaire. The questionnaire investigated students' perception of online platforms, technological facilities, level of communication, psychological and physical constraints and other issues. The online structural survey questionnaire containing 9 (2 close-ended and 7 open-ended) questions was distributed among 87 tertiary-level students. Nevertheless, due to incompletion, the responses of 7 students were excluded. Finally, the reactions of 80 students constituted the data for the current study. The data collection took place from January 2022 to March 2022.

3.5. Interview

Upon reflection on the data collected from this survey, a semi-structured interview was conducted with 10 students from different universities who participated and volunteered to give the interview. Interviews were conducted online through Google Meet based on 10 open-ended questions to obtain specific data regarding learner perceptions of online learning and solicit advice for new online learners and their source of motivation. To ensure

credibility and trustworthiness, the interviews were organized by three researchers. The data obtained from the interviews were used to substantiate the questionnaire results.

4. FINDINGS

This section subsumed the data elicited through survey questionnaires and semi-structured interviews. Two types of data were presented separately to make it reader-friendly.

4.1. Quantitative Data

The 80 learners who participated in the survey experienced some challenges and benefits in online classes during the COVID-19 pandemic:

According to the survey questionnaire, around 33% of participants out of 80 did not receive any training for using technology for online classes. Of those who received training, 20% took help from faculty members, almost 31% learned from YouTube video tutorials, and only 16% received institutional online training on the technology used for online classes. As such, it was identified that the majority of the students faced challenges in online classes due to technological incompetence.

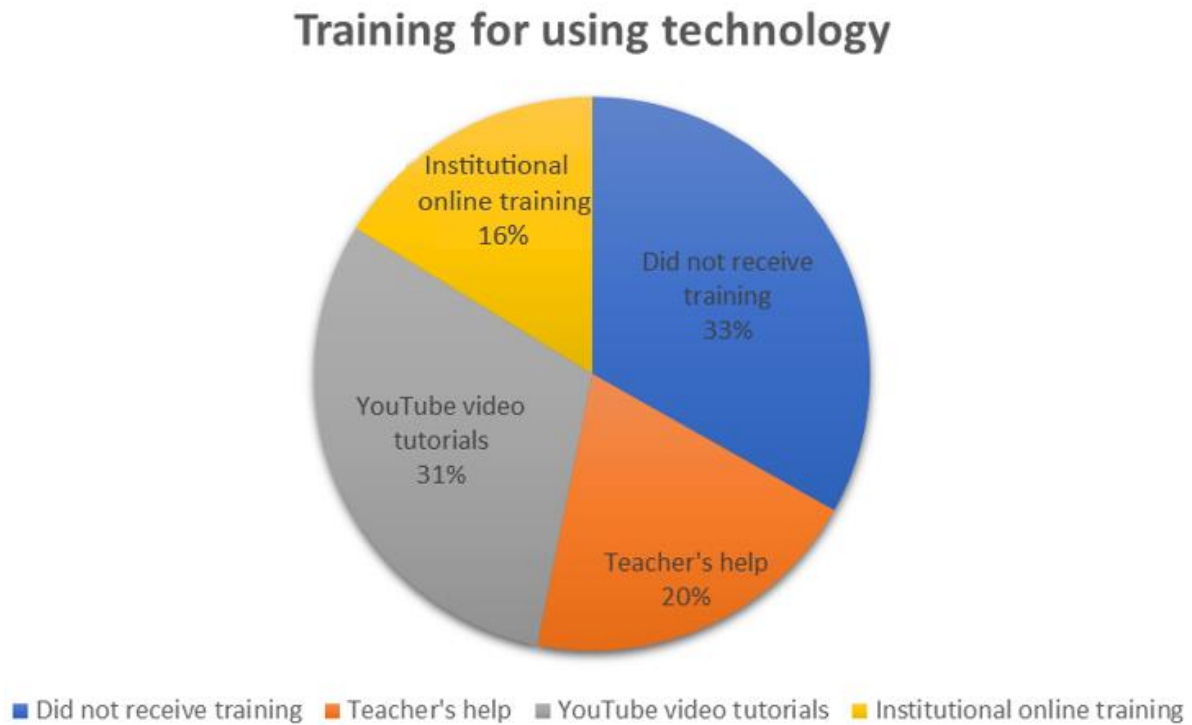Figure 1 presents the percentage of training for using technology during COVID-19 online classes.

Figure 1. Percentage of training for using technology during COVID-19 online classes.

Among all the learners, 30% complained that they had to sit in front of the screen for a long time, which affected their concentration, and 23% felt isolated, which caused stress in the classroom. Again, 22% were facing exhaustion, and 22% were bored due to the long duration of online classes. In contrast, only about 3% claimed they had no noteworthy issues affecting their mental health. This reveals that the majority of the learners suffered from mental discomfort.

Figure 2 presents the percentage of issues affecting mental health during COVID-19 online classes.

Issues affecting mental health

Figure 2. Percentage of issues affecting mental health during COVID-19 online classes.
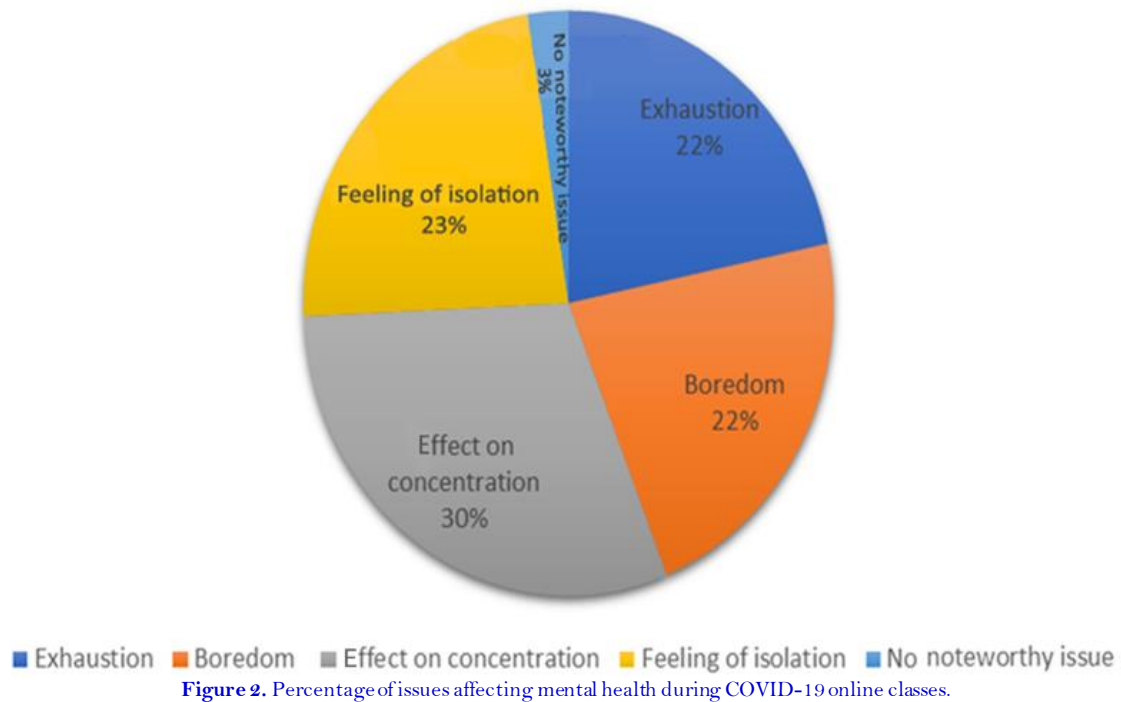
In addition, students complained of many physical issues due to online sessions, such as headaches 35%, burning eyes 32%, and back pain 29%. However, approximately 4% claimed that they had no noteworthy physical issues.

Figure 3 presents the percentage of issues affecting physical health during COVID-19 online classes.

Issues affecting physical health

Figure 3. Percentage of issues affecting physical health during COVID-19 online classes.
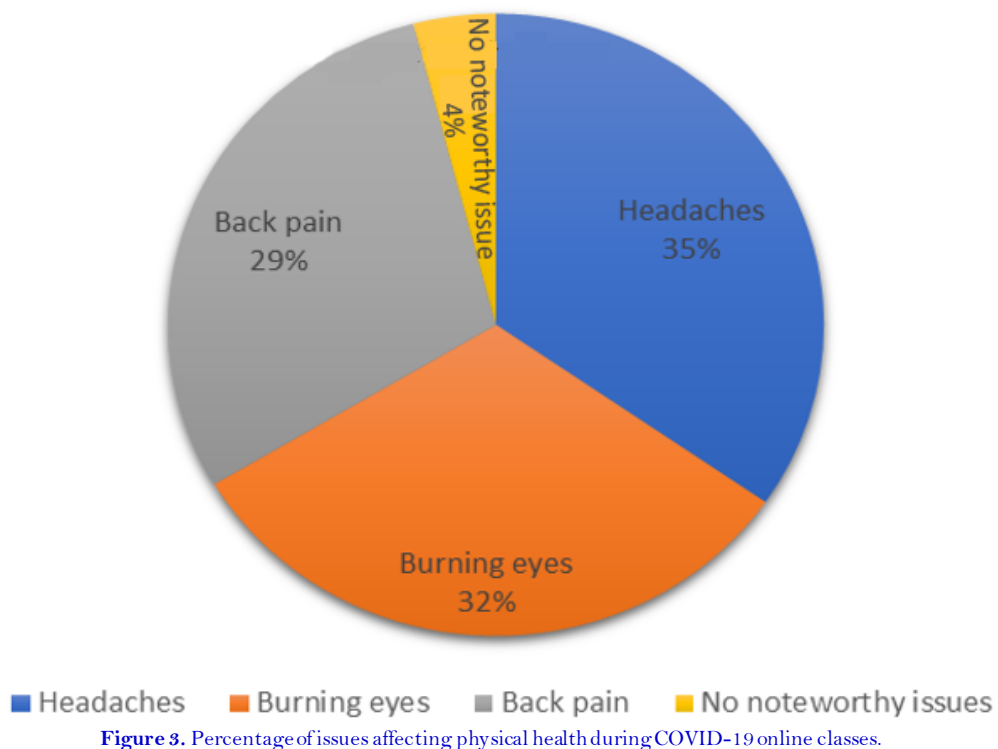
52% of the students who participated stated that receiving feedback during online classes was not effective as they did not have the opportunity to interact or discuss, ask questions, or provide more explanations or solutions to feedback. About 32% reported that teachers often provided common feedback to all the students alike in class, which made receiving feedback unproductive. Only 15% said that it was effective as the feedback classes were recorded and could be rewatched, and the instructor could allocate more time per student. 1% only claimed that they did not receive any feedback from their teachers at all. This means that students faced difficulty receiving feedback on their completed tasks online.

Figure 4 presents the percentage of feedback received by students during COVID-19 online classes.
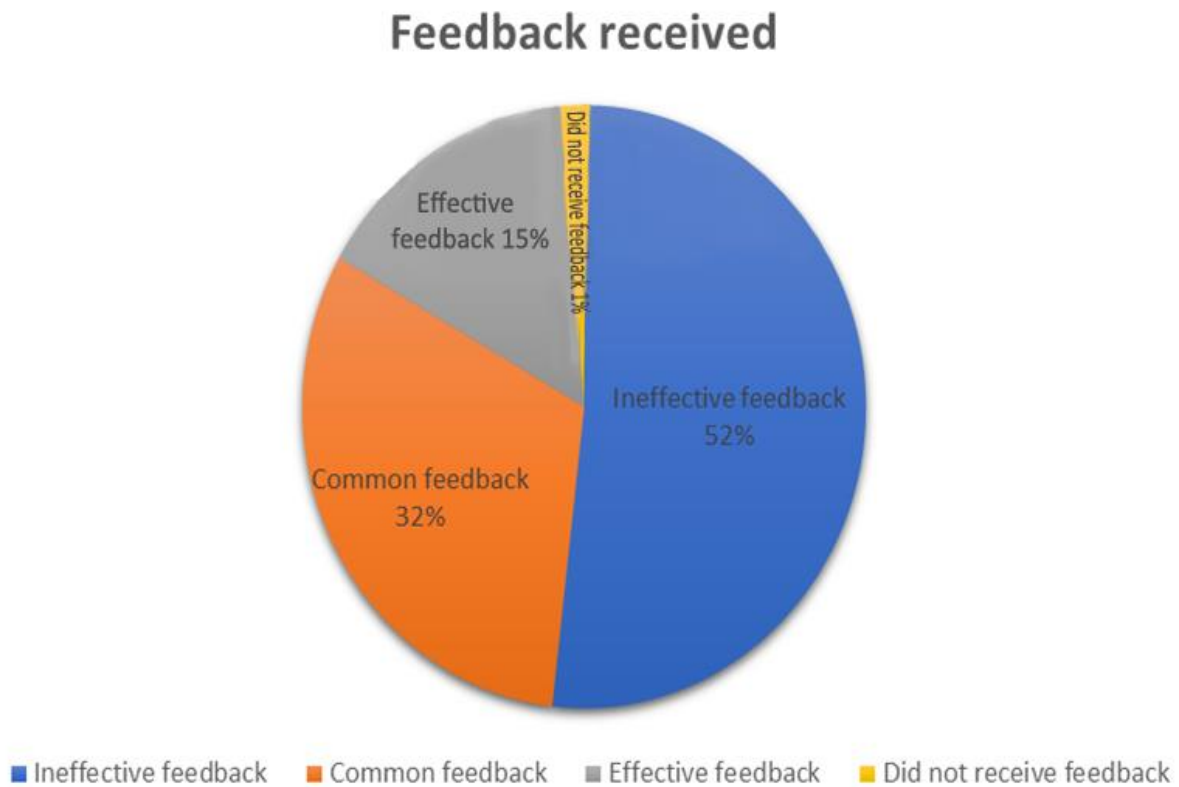

Figure 4. Percentage of feedback received by students during COVID-19 online classes.

Most students reported that the online platforms being used during the pandemic are sufficient. Among them, 38% opted for Google Meet, and almost 15% said that they had no platforms for online live classes; instead, they received recordings of lecture videos and other learning materials through Google Classroom and Slack, which helped them with learning. Moreover, 30% found Zoom suitable and flexible for classroom activities and group work. The institution's platforms were used by 15% of learners used the institution's platforms to share online learning materials, assessments, and lecture videos. Only 2% mentioned that Discord was used as their online learning and communication platform. Thus, we can conclude that the learners benefited as they had a variety of platforms to continue their online learning during the COVID-19 pandemic.

Figure 5 presents the percentage of online platforms used by students for online learning during COVID-19 online classes.
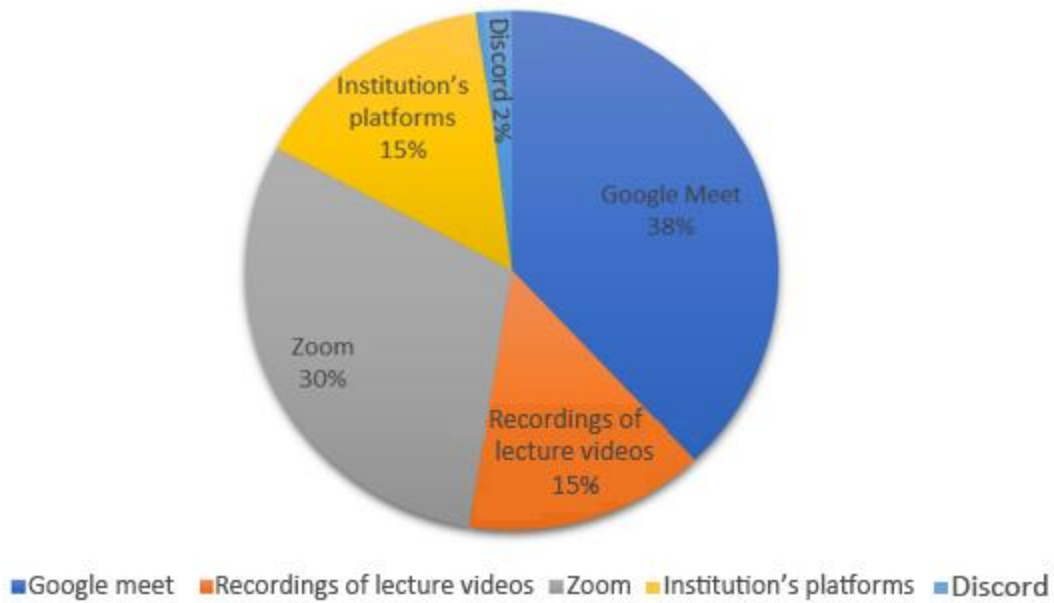
Online platforms

Figure 5. Percentage of online platforms used by students for online learning during COVID-19 online classes.

Regarding communication with teachers online, around 69% of the students felt their teachers and classmates were 'always available' online for communication. Also, 21 % of the students who participated thought their teachers and classmates were available 'sometimes'. 6% claimed that though classmates were always available for communication, it was challenging to find their teachers online. On the other hand, 3% found it difficult to reach their classmates when the teacher was available. Again, only 1% stated that they did not find either teacher or classmates available online for adequate support from either teacher or classmates. This shows that most learners were satisfied with the online communication facilities during the pandemic, which benefited their learning.

Figure 6 presents the percentage of communication with teachers and classmates during COVID-19 online classes.

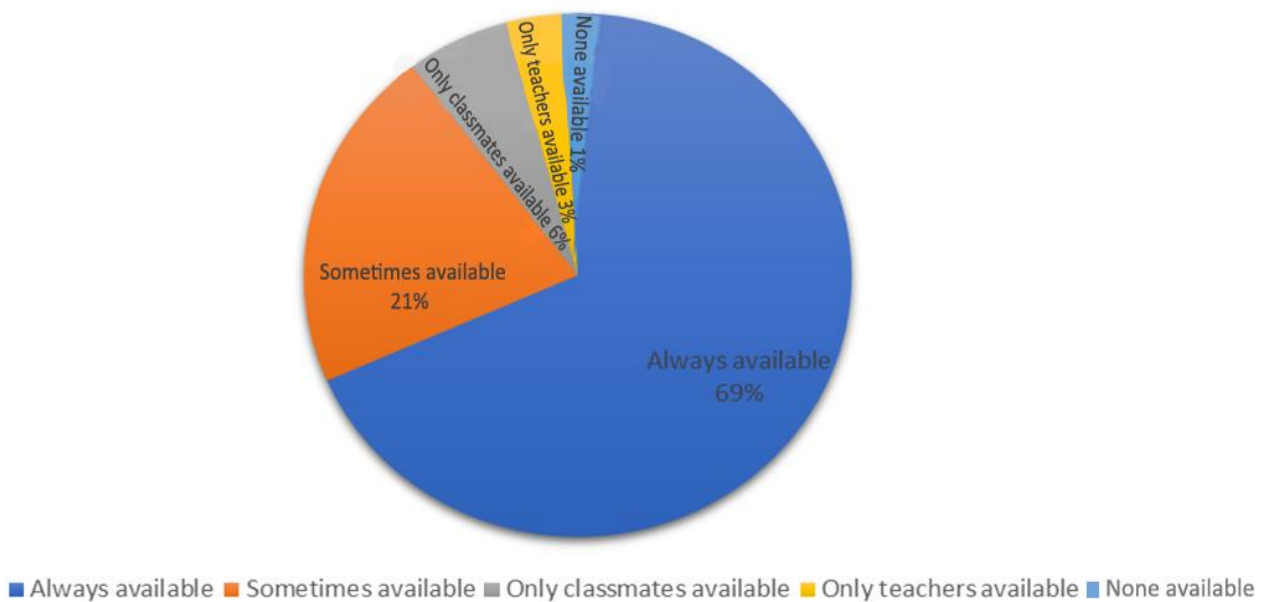## Communication with teachers and classmates

Figure 6. Percentage of communication with teacher and classmates during COVID-19 online classes.

Students identified several other aspects of online learning that are considered advantages. Among those students who participated mentioned that it was less stressful due to no commuting hassle 30% as it saves time on commuting 27% and allows them to do classes from the comfort of their homes 23% and complete their assignments at their own pace 20%.

Figure 7 presents the percentage of other aspects that learners found beneficial during COVID-19 online classes.

Figure 7. Percentage of other aspects that learners found beneficial during COVID-19 online classes.
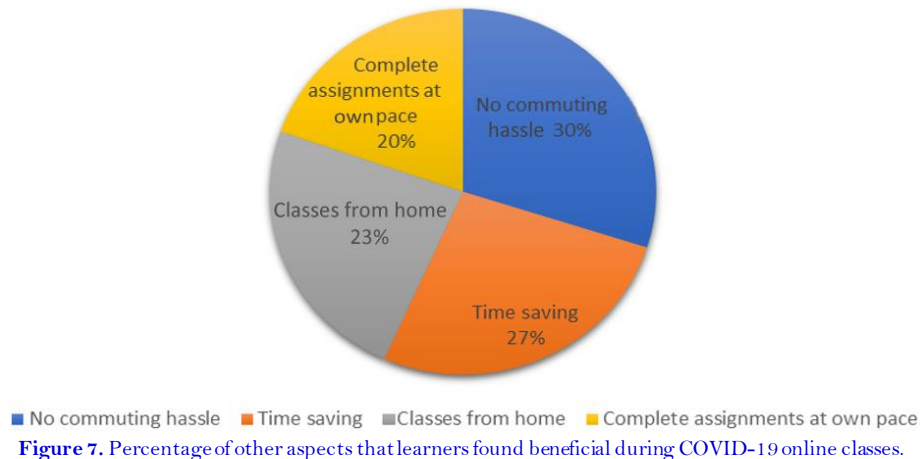
4.2. Qualitative Data

We administered questions to identify the challenges and benefits faced by the students when they were involved in online classes during COVID-19. The answers to the questions are presented chronologically.

In response to the first research question regarding the challenges and benefits the learners of the private universities of Bangladesh experience in online learning during the COVID-19 pandemic, participants elicited that there was a constant scuffle with internet connections and devices during class activities and while submitting/uploading assignments, taking exams, and during group work or presentations, which were especially severe in rural areas where students either could not stay online due to poor bandwidth or could not recharge their devices due to frequent and prolonged power cuts. For instance, S-1 highlighted, "In my village, the power cut sometimes continued for one or two days at a stretch, and I was unable to avail online materials or join live classes. I felt I was not competent enough to deal with the technology used, and on top of that, there were too many platforms and passwords with new features to deal with. I did not even know that so many platforms existed!" Importantly, participants opined that uninterrupted connectivity is necessary to attend online classes effectively. However, participants living in the main cities did not face such challenges.

Respondents claimed they did not have personal space to ensure an education-friendly climate at home. For instance, S-5 explained, "I live in a two-bedroom apartment with many family members and have little control over the circumstances at my home." Nonetheless, those who had separate rooms or personal space could adjust better to the change. Many participants mentioned that the online classes increased the costs significantly as they had to purchase new devices since they did not own proper equipment for online classes. They had to purchase high-speed internet data for disruption-free online classes. They shared that the earning members of their families lost their jobs or businesses, and affording an appropriate device and robust internet connection for online classes was a challenge. The majority of the learners who participated stated that lethargy overcame them after the initial excitement of getting introduced to the online classes, as the classes were long, non-interactive, and lacked innovation.

Few participants shared that the COVID-19 pandemic was a time of fear and grief as they received news of death from their surroundings. This traumatic experience has caused them stress and frustration. Most of them also shared that they suffered from various health problems, including headaches, burning eyes, and backaches from sitting for a stretch in front of their devices. Some students suffered from stress due to technical difficulties and deadlines. According to S-8. "Keeping track of all the deadlines of online classes on my own was a challenge during this pandemic crisis." Also, few participants articulated that attending more than one class in a day took a toll on their bodies and minds. Some students found the online lab classes too long and tiresome and struggled to remember all the lessons. They could not concentrate for such a long time at a stretch. Many participants articulated that feedback received online was insufficient without the opportunity to discuss or ask questions to the faculty. They also mentioned failing to receive detailed feedback on their written tasks. On the contrary, a handful of participants said they perceived online feedback as effective when feedback sessions were recorded to allow the rewatch.

In contrast, the participants in our study shared a few advantages regarding online classes. The learners shared how, at the beginning of the pandemic, they were worried that they would have to lose semesters due to the lockdown at the beginning of the pandemic. Some of them even panicked that it may take years for things to go back to normal; however, the majority of them felt relieved and grateful when the online classes started, and they could continue their studies from the safety of their homes without missing any semester. Students also knew the course content because online platforms gave course overviews from the start of the semester. Participants also noted that the information was simplified and condensed compared to offline classes for the same course, making it easier to complete during this crisis instead of finding it burdensome. Students who lived far away from the university campus could avoid exhausting traffic jams. Time and effort are also saved as they do not have to think about attire, food during lunch break, or wait for transport.

5. DISCUSSION

5.1. Challenges and Benefits of Online Learning

This study found that the private university students of Bangladesh faced both challenges and benefits during the COVID-19 pandemic. Poor technology, financial constraints, unsuitable home environments, detrimental physical and mental health effects, and insufficient feedback were some of the problems they faced. However, learners also faced few benefits, such as the opportunity to continue semesters, optimization of time, and sufficient online platforms.

5.1.1. Poor Technology and Internet Facilities

Previous studies by Aydın and Tasci (2005) and Borotis and Poulymenakou (2004) have shown that online learning initiatives succeed if participants have the necessary technical equipment, which includes up-to-date computer hardware, software, and stable high-speed internet access (Atack & Rankin, 2002; Emmungil & Akleylek, 2008). Our study revealed that most learners possessed sufficient technological equipment, which contradicts the results of Rahman et al. (2021). Though there was sufficient technological support in some parts of Bangladesh, especially the rural areas, due to a lack of training and interrupted internet, many could not access these study materials by using their devices. This aligns with Alam (2020) study, where he found that inadequate internet access, low technology literacy, and lack of app experience were significant barriers to online learning in rural and urban areas. Such problems may be mitigated by training from educational institutions and improved internet infrastructure in urban and rural Bangladesh.

5.1.2. Financial Constraints

Financial support is considered the major barrier to the online education system by Lassoued, Alhendawi, and Bashitialshaaer (2020) and Mahmud and Gope (2009). This study reflected that the pandemic had caused economic

shocks owing to jobs or business losses and caused financial strains on students to continue online education, especially those from low-income families. Education expenses rose as they had to purchase new devices and high-speed internet data for disruption-free online classes. These outcomes were consistent with the results of previous studies (Brooks et al., 2020; Dutta & Smita, 2020), where learners perceived online learning as challenging as they were suffering from poor financial conditions and it was burdensome for them to bear the high cost of online learning. Educational institutions should ensure that everyone can enroll in online programs regardless of financial position. Financial aid for struggling students and merit-based scholarships for bright students could be provided. In times of crisis, institutions might work with mobile connection businesses to offer students affordable internet packages.

5.1.3. Unsuitable Home Environment

According to Nambiar (2020), an unsupportive home environment makes it challenging for students to focus during online classes. This was also the finding of our study, where participants complained that their home environments were not conducive to online learning. They also mentioned that their parents had a negative attitude and belief towards online learning as they were not familiar with this mode of learning. This finding aligns with the study conducted by Dong et al. (2020) and Nambiar (2020), which mentioned that learners consider online classes as burdensome due to a negative home environment. Therefore, by counselling parents and students about online learning, educational institutions could have improved and motivated students' learning experiences.

5.1.4. Deterioration of Mental and Physical Health

Ela et al. (2021) mentioned that the prolonged closure of educational institutions, overuse of social and electronic media and the deteriorating health of family members harm students' mental health. Our participants shared that the COVID-19 pandemic was a time of fear, grief and loss. An atmosphere of uncertainty loomed amidst the constant news of death. To be in a sudden state of forced isolation under such circumstances was a traumatic experience for them. Our study has also revealed that a majority of the learners were suffering from mental issues, such as frustration, stress, and lethargy, due to the constant use of electronic media for their online classes. Learners' academic performance can impact poor physical health (Dewa & Lin, 2000). Our participants said they were facing headaches, burning eyes, back pain, and more, affecting their overall academic performance. These findings were consistent with the results of previous studies (Adnan & Anwar, 2020; Dutta & Smita, 2020; Ela et al., 2021), where it was detected that online classes during COVID-19 affected learners both mentally and physically. So, optional counselling sessions should have been included to ensure students' well-being.

5.1.5. Insufficient Feedback

Ladyshewsky (2013) emphasized that written and oral feedback on assignments and online discussions is the main way to obtain satisfaction in online courses and overall grades. However, our study revealed that students found feedback ineffective as they could not discuss or ask questions to clarify the given feedback. The absence of contact, facial expressions, and familiarity with teachers created communication gaps, making feedback even more ineffective. This was also found in Alam (2020) study, where he highlighted that teachers faced difficulties managing individual feedback online, resulting in learner dissatisfaction. Communication and one-on-one interaction between teachers and students can improve feedback. Teacher recommendations, instructions, and written feedback can also motivate students and answer queries.

5.1.6. Opportunity to Continue Semesters

According to Mahyoob (2020), it is vital to continue higher education without any intervals during crisis moments as it cultivates individuals capable of reshaping the future. Our participants were grateful for receiving guidance and support through online classes from the comfort of their homes, which developed their confidence and

learning skills without missing any semesters. This finding aligns with the result of Khan et al. (2021), who identified that online learning was the only solution to the educational crisis during COVID-19, enabling students to avoid academic setbacks. Therefore, online learning during COVID-19 has helped minimize the negative effects on tertiary-level education.

5.1.7. Easy Communication

Guri-Rosenblit (2006) states that socialization is an essential component of the success of communication, and communication is essential for academic development. In our study, it was found that most learners were satisfied with the online communication facilities during the pandemic, which benefited their learning as they could communicate with their teachers and classmates. This is similar to Alam (2020) result, which reflects that students could overcome anxiety due to the pandemic by communicating strongly with others. Participating in activities and group work through platforms like Zoom was particularly helpful. However, this contradicts the outcomes of Dutta and Smita (2020) and Alawamleh et al. (2020), who revealed that the COVID-19 pandemic harmed social interactions between students and teachers, obstructing learning. Thus, the pandemic's effects on socialization are complex. Institutions and teachers must use virtual platforms to encourage conversations and teach students how to use Internet communication in a crisis.

5.1.8. Optimization of Time

According to Khalil et al. (2020), students feel comfortable and flexible in online learning and can save more time, which, in turn, motivates the learners to master the study content at a faster pace. Consistent with this, our study shows that students who live far away from the university campus can avoid exhausting traffic jams and save time if classes are held online. Since they could take online classes from home, they could do assignments whenever possible. Also, they saved time and effort by not worrying about what to wear, what to eat for lunch, or waiting for transportation. These findings align with a previous study conducted by Nambiar (2020), where she highlighted that online classes are time-saving as they could be done from the safety of their residence, thus saving time on the commute without the anxiety of rushing to reach university fighting traffic jams. So, educational institutions can promote online learning and thus save productive time.

5.1.9. Sufficient Online Platforms

Sun and Chen (2016) mention that effective online learning depends on advanced technological platforms. Consistent with this, our study supports that various online platforms were used during the pandemic, which was sufficient as they allowed the learners to continue their online learning. They added that they could connect with teachers and classmates through virtual classrooms, participate in group work discussions, and access study materials. This is similar to the finding of Khan et al. (2021), who mentioned that media like Zoom or Google Meet achieved priority as an essential tool for online classes to ensure various activities. So, educational institutions should stay updated on the latest technology. Our study found that online classes using modern technology can help students continue learning during crises like COVID-19.

5.2. Factors That Intrinsically Motivated the Learners

This study found that learners were intrinsically motivated to continue online learning despite several challenges. According to Virtanen (2022), meeting the three psychological demands of SDT—competence, relatedness, and autonomy—serves as a motivating force, empowering learners to engage in the learning process actively.

Continuous access to easily understandable knowledge was identified as a key factor in helping learners achieve competence (Virtanen, 2022). Our students had access to simplified handouts and lecture videos in Google Classroom or institutional online platforms, ensuring constant access to easily digestible knowledge and enhancing

their intrinsic motivation. In addition, learners were provided shortened and simplified syllabi compared to their offline counterparts, facilitating effortless learning and nurturing learner competence.

Clear expectations and consistent goals are important in developing competence and increasing IM (Virtanen, 2022). Our students were offered a comprehensive course overview at the beginning of the semester, which ensured clear expectations and consistent goals were established, vital in fostering competence and increasing intrinsic motivation. This approach enabled participants to comprehend what was expected of them and the goals they needed to achieve, leading to a sense of competence in continuing with online classes.

Furthermore, personalizing learners' learning pathways and content further reinforced their sense of competence (Virtanen, 2022). Our findings indicated that learners had control over their learning pathways, as Google Classroom and institutional online platforms provided study materials and lecture videos that could be accessed conveniently from anywhere, allowing learners to tailor their learning experience to their preferences.

Again, online learning tools could provide learners with a social learning environment and achieve relatedness, leading to the evolution of IM in learners (Virtanen, 2022). Our study found that online learning platforms created a social learning environment, fostering relatedness and enhancing IM. Platforms like Zoom were particularly popular, as they facilitated group activities and enabled students to build social connections through breakout rooms. Moreover, learners also utilized other platforms such as Slack, Discord, and messenger groups to promote social learning to achieve relatedness.

Finally, allowing learners flexibility in how, when, and where they access study content promotes autonomy, ensuring intrinsic motivation (Virtanen, 2022). Our study revealed that learners enjoyed the flexibility of accessing study materials online, irrespective of time and place, using their devices, enabling them to assume control over their learning.

Thus, our study demonstrates that students were intrinsically motivated to continue their online learning, as evidenced by their self-awareness, as discussed by Knowles and Kerkman (2007; as cited in Gustiani (2020)). However, while receiving positive feedback is essential in developing competence and ensuring intrinsic motivation (Virtanen, 2022), our study found that participants considered feedback ineffective due to the absence of personal contact, facial expressions, and communication gaps.

To cap it all, online learning in Bangladeshi private universities aligns with the principles of SDT and intrinsically motivates students by providing competence, relatedness, and autonomy. Although online learning during the COVID-19 pandemic partially meets most of the psychological needs necessary for IM, it nonetheless motivates learners to continue their education during this crisis.

It can be predicted that if the challenges faced by the learners in urban and rural areas were addressed, such as providing strong infrastructure, internet connectivity, and availability of devices at a reasonable cost, then online platforms may be a feasible option for teaching and learning all over Bangladesh in future. The findings of this study would help policymakers, faculties, and universities to develop ways to provide better learning experiences for learners on online platforms. Moreover, the findings of this study will enable them to create efficient online learning facilities and resources and be prepared for future pandemics or similar situations to ensure the continuity of learners' education and develop learners' intrinsic motivation, which is crucial for learning to take place effectively.

6. CONCLUSION

Due to the COVID-19 pandemic, the sudden transition to online learning posed many obstacles with few benefits for the private university students of Bangladesh. However, the learners continued their online learning. Despite the challenges such as poor technology and internet facilities, financial constraints, unsuitable home environment, deterioration of physical and mental health, and insufficient feedback, there were a few benefits like the opportunity to continue semesters, easy communication with peers and teachers, optimization of time and sufficient online platforms. Finally, it was found that though the drawbacks outnumbered the benefits, learners were

still intrinsically motivated to continue their online journey as their three psychological needs of competence, relatedness and autonomy were met.

Therefore, if the policymakers and institutions addressed the drawbacks that we found in our study, then online platforms can be a useful tool for teaching and learning in the future. They must comprehend the significance of how this preparedness may benefit Bangladesh's education system in similar circumstances as the COVID-19 pandemic. Moreover, it was important to ensure all the factors that intrinsically motivated the learners so that these can be refined to bring about long-term sustainable development in online learning. Despite its contribution, it must be borne in mind that it was only conducted on a small scale of private university students and included a few universities situated in Dhaka, the capital of Bangladesh. Further research is needed to determine the perception of online learning among students of Bangladeshi private universities, including the ones outside of Dhaka. Additionally, it is required to determine what other factors apart from SDT have motivated learners to continue their online learning.

REFERENCES

Abbas, S. M. (2020). *Covid-19: Educational institutions engaging in online, virtual classes, Dhaka Tribune*. Retrieved from https://www.dhakatribune.com/bangladesh/education/2020/05/02/covid-19-educational-institutions-engaging-in-online-virtual-classes

Adnan, M., & Anwar, K. (2020). Online learning amid the COVID-19 pandemic: Students' perspectives. *Journal of Pedagogical Sociology and Psychology*, 1(2), 45-51. https://doi.org/10.33902/jpsp.2020261309

Ahmed, M. (2020). *Tertiary education during Covid-19 and beyond. The Daily Star*. Retrieved from https://www.thedailystar.net/opinion/news/tertiary-education-during-covid-19-and-beyond-1897321

Al-Amin, M., Al Zubayer, A., Deb, B., & Hasan, M. (2021). Status of tertiary level online class in Bangladesh: Sudents' response on preparedness, participation and classroom activities. *Heliyon*, 7(1), e05943. https://doi.org/10.1016/j.heliyon.2021.e05943

Al-Tammemi, A. a. B., Akour, A., & Alfalah, L. (2020). Is it just about physical health? An internet-based cross-sectional study exploring the psychological impacts of COVID-19 pandemic on university students in Jordan using Kessler Psychological Distress Scale. *medRxiv*, 1-17. https://doi.org/10.21203/rs.3.rs-29439/v1

Alam, A. (2020). Challenges and possibilities of online education during Covid-19. *Preprints*, 2020060013. https://doi.org/10.20944/preprints202006.0013.v1

Alawamleh, M., Al-Twait, L. M., & Al-Saht, G. R. (2020). The effect of online learning on communication between instructors and students during Covid-19 pandemic. *Asian Education and Development Studies*, 11(2), 380-400. https://doi.org/10.1108/aeds-06-2020-0131

Atack, L., & Rankin, J. (2002). A descriptive study of registered nurses' experiences with web-based learning. *Journal of Advanced Nursing*, 40(4), 457-465. https://doi.org/10.1046/j.1365-2648.2002.02394.x

Aydın, C. H., & Tasci, D. (2005). Measuring readiness for e-learning: Reflections from an emerging country. *Journal of Educational Technology & Society*, 8(4), 244-257.

Basilaia, G., & Kvavadze, D. (2020). Transition to online education in schools during a SARS-CoV-2 coronavirus (COVID-19) pandemic in Georgia. *Pedagogical Research*, 5(4), em0060. https://doi.org/10.29333/pr/7937

Bhuiyan, M. O. F. (2022). *Learners' engagement and motivation in online education during Covid-19: Challenges and possibilities in Bangladesh*. Paper presented at the Conference Paper.

Borotis, S., & Poulymenakou, A. (2004). *E-learning readiness components: Key issues to consider before adopting e-learning interventions*. Paper presented at the In E-Learn: World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education, Association for the Advancement of Computing in Education (AACE).

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77-101. https://doi.org/10.1191/1478088706qp063oa

Brooks, S. K., Webster, R. K., Smith, L. E., Woodland, L., Wessely, S., Greenberg, N., & Rubin, G. J. (2020). The psychological impact of quarantine and how to reduce it: Rapid review of the evidence. *The Lancet, 10227*(395), 912–920.

Burgess, S., & Sievertsen, H. H. (2020). Schools, skills, and learning: The impact of COVID-19 on education. *VoxEu. org, 1*(2), 73-89.

Chiu, T. K. (2022). Applying the self-determination theory (SDT) to explain student engagement in online learning during the COVID-19 pandemic. *Journal of Research on Technology in Education, 54*(sup1), S14-S30. https://doi.org/10.1080/15391523.2021.1891998

Corpus, J. H., Robinson, K. A., & Liu, Z. (2022). Comparing college students' motivation trajectories before and during COVID-19: A self-determination theory approach. In Frontiers in Education. In (Vol. 7, pp. 1-8): Frontiers Media SA.

Creswell, J. W. (2014). *Research design: Qualitative, quantitative and mixed methods approaches* (4th ed.). London: Sage Publications Ltd.

Deci, E. L., & Ryan, R. M. (1985). Conceptualizations of intrinsic motivation and self-determination. *Intrinsic Motivation and Self-Determination in Human Behavior*, 11-40. https://doi.org/10.1007/978-1-4899-2271-7_2

Dewa, C. S., & Lin, E. (2000). Chronic physical illness, psychiatric disorder and disability in the workplace. *Social Science & Medicine, 51*(1), 41-50. https://doi.org/10.1016/s0277-9536(99)00431-1

Dong, C., Cao, S., & Li, H. (2020). Young children's online learning during COVID-19 pandemic: Chinese parents' beliefs and attitudes. *Children and Youth Services Review, 118*, 105440. https://doi.org/10.1016/j.childyouth.2020.105440

Dutta, S., & Smita, M. K. (2020). The impact of COVID-19 pandemic on tertiary education in Bangladesh: Students' perspectives. *Open Journal of Social Sciences, 8*(09), 53-68.

Ela, M. Z., Shohel, T. A., Khan, L., Jahan, N., Hossain, M. T., & Islam, M. N. (2021). Prolonged lockdown and academic uncertainties in Bangladesh: A qualitative investigation during the COVID-19 pandemic. *Heliyon, 7*(2), e06263. https://doi.org/10.1016/j.heliyon.2021.e06263

Emmungil, L., & Akleylek, S. (2008). *Technical requirements for online education support*. Paper presented at the In Proceedings of 8th International Educational Technology Conference.

Emon, E. K. H., Alif, A. R., & Islam, M. S. (2020). Impact of COVID-19 on the institutional education system and its associated students in Bangladesh. *Asian Journal of Education and Social Studies, 11*(2), 34-46. https://doi.org/10.9734/ajess/2020/v11i230288

Gautam, D. K., & Gautam, P. K. (2021). Transition to online higher education during COVID-19 pandemic: Turmoil and way forward to developing country of South Asia-Nepal. *Journal of Research in Innovative Teaching & Learning, 14*(1), 93-111. https://doi.org/10.1108/jrit-10-2020-0051

Guri-Rosenblit, S. (2006). Eight paradoxes in the implementation process of e-learning in higher education 1. *Distances et Savoirs, 4*(2), 155-179. https://doi.org/10.3166/ds.4.155-179

Gustiani, S. (2020). Students'motivation in online learning during COVID-19 pandemic era: A case study. *Holistics Journal, 12*(2), 23-40.

Hasan, K., Abdullah, M., Shovon, F. R., & Rahman, M. (2020). *Shutting down educational institutions under government consideration*. Dhaka Tribune.

Jacob, L., Tully, M. A., Barnett, Y., Lopez-Sanchez, G. F., Butler, L., Schuch, F., . . . Grabovac, I. (2020). The relationship between physical activity and mental health in a sample of the UK public: A cross-sectional study during the

implementation of COVID-19 social distancing measures. *Mental Health and Physical Activity, 19,* 100345. https://doi.org/10.1016/j.mhpa.2020.100345

Kaur, G. (2020). Digital life: Boon or bane in teaching sector on COVID-19. *CLIO an Annual Interdisciplinary Journal of History, 6*(6), 416-427.

Khalil, R., Mansour, A. E., Fadda, W. A., Almisnid, K., Aldamegh, M., Al-Nafeesah, A., . . . Al-Wutayd, O. (2020). The sudden transition to synchronized online learning during the COVID-19 pandemic in Saudi Arabia: A qualitative study exploring medical students' perspectives. *BMC Medical Education, 20*(1), 1-10. https://doi.org/10.1186/s12909-020-02208-z

Khan, M., Rahman, S., & Islam, S. (2021). Online education system in Bangladesh during COVID-19 pandemic. *Creative Education, 12*(2), 441-452.

Khetrapal, S., & Bhatia, R. (2020). Impact of COVID-19 pandemic on health system & sustainable development goal 3. *Indian Journal of Medical Research, 151*(5), 395-399. https://doi.org/10.4103/ijmr.ijmr_1920_20

Ladyshewsky, R. (2013). Instructor presence in online courses and student satisfaction. *The International Journal for the Scholarship of Teaching and Learning, 7*(1), 1-23. https://doi.org/10.20429/ijsotl.2013.070113

Lassoued, Z., Alhendawi, M., & Bashitialshaaer, R. (2020). An exploratory study of the obstacles for achieving quality in distance learning during the COVID-19 pandemic. *Education Sciences, 10*(9), 1-13. https://doi.org/10.3390/educsci10090232

Mahmud, A., Dasgupta, A., Das Gupta, A., Hasan, M. D., & Kabir, K. R. (2021). Current status about COVID-19 impacts on online education system: A review in Bangladesh. *Kazi Rafia, Current Status about COVID-19 Impacts on Online Education System: A Review in Bangladesh (February 15, 2021),* 1-18. https://doi.org/10.2139/ssrn.3785713

Mahmud, K., & Gope, K. (2009). *Challenges of implementing e-learning for higher education in least developed countries: a case study on Bangladesh.* Paper presented at the In 2009 International Conference on Information and Multimedia Technology, IEEE.

Mahyoob, M. (2020). Challenges of e-learning during the COVID-19 pandemic experienced by EFL learners. *Arab World English Journal, 11*(4), 351-362. https://doi.org/10.24093/awej/vol11no4.23

Marois, G., Muttarak, R., & Scherbov, S. (2020). Assessing the potential impact of COVID-19 on life expectancy. *Plos One, 15*(9), e0238678. https://doi.org/10.1371/journal.pone.0238678

Meo, S. A., Abukhalaf, A. A., Alomar, A. A., Sattar, K., & Klonoff, D. C. (2020). COVID-19 pandemic: Impact of quarantine on medical students' mental wellbeing and learning behaviors. *Pakistan Journal of Medical Sciences, 36*(COVID19-S4), 1-6. https://doi.org/10.12669/pjms.36.covid19-s4.2809

Moore, J. L., Dickson-Deane, C., & Galyen, K. (2011). e-Learning, online learning, and distance learning environments: Are they the same? *The Internet and Higher Education, 14*(2), 129-135. https://doi.org/10.1016/j.iheduc.2010.10.001

Nambiar, D. (2020). The impact of online learning during COVID-19: Students' and teachers' perspective. *The International Journal of Indian Psychology, 8*(2), 783-793.

Nemoto, T., & Beglar, D. (2014). *Developing likert-scale questionnaires. In N. Sonda & A. Krause (Eds.).* Paper presented at the JALT2013 Conference Proceedings, JALT.

Ong, A. K. S., Prasetyo, Y. T., Paruli, M. K. C., Alejandro, T. M., Parais, A. S., & Sarne, L. M. B. (2022). Factors affecting students' happiness on online learning during the COVID-19 pandemic: A self determination theory approach. *International Journal of Information and Education Technology, 12*(6), 555-564. https://doi.org/10.18178/ijiet.2022.12.6.1653

Rahman, M. H. A., Uddin, M. S., & Dey, A. (2021). Investigating the mediating role of online learning motivation in the COVID-19 pandemic situation in Bangladesh. *Journal of Computer Assisted Learning, 37*(6), 1513-1527.

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55*(1), 68-78. https://doi.org/10.1037/0003-066x.55.1.68

Seetharaman, P. (2020). Business models shifts: Impact of Covid-19. *International Journal of Information Management, 54,* 102173. https://doi.org/10.1016/j.ijinfomgt.2020.102173

Shahriar, S. H. B., Arafat, S., Sultana, N., Akter, S., Khan, M. M. R., Nur, J. E. H., & Khan, S. I. (2021). The transformation of education during the corona pandemic: Exploring the perspective of the private university students in Bangladesh. *Asian Association of Open Universities Journal, 16*(2), 161-176. https://doi.org/10.1108/aaouj-02-2021-0025

Sun, A., & Chen, X. (2016). Online education and its effective practice: A research review. *Journal of Information Technology Education: Research, 15*, 157-190. https://doi.org/10.28945/3502

Virtanen, A. (2022). *Self-determination theory in elearning: Motivate your learners, growth engineering*. Retrieved from https://www.growthengineering.co.uk/self-determination-theory/

Wang, L. (2017). Using the self-determination theory to understand Chinese adolescent leisure-time physical activity. *European Journal of Sport Science, 17*(4), 453-461. https://doi.org/10.1080/17461391.2016.1276968

WHO. (2020). *COVID-19 public health emergency of international concern (PHEIC) global research and innovation forum. (n.d.)*. Retrieved from https://www.who.int/publications/m/item/covid-19-public-health-emergency-of-international-concern-(pheic)-global-research-and-innovation-forum

Zhu, Y., Zhang, J. H., Au, W., & Yates, G. (2020). University students' online learning attitudes and continuous intention to undertake online courses: A self-regulated learning perspective. *Educational Technology Research and Development, 68*, 1485-1519. https://doi.org/10.1007/s11423-020-09753-w

APPENDIX

Appendix 1 presents a questionnaire on quantitative data to identify the challenges and benefits of COVID-19 online learning.

Appendix 1. Questionnaire.

The purpose of this questionnaire is to understand the challenges and benefits of online learning that you have faced during the COVID-19 pandemic. For this purpose, you need to focus on answering the following questions as thoroughly as possible. You may write your answers on a separate sheet of paper.

1. Which private university are you from? (Close-ended)

2. How long have you been doing online classes? (Close-ended)

Online platform

3. Are online classes, such as Zoom, Google Meet, Google Classroom, etc.) sufficient for online classes? Why or why not, please explain.

Communication

4. How frequently did you find your faculties and classmates available online whenever you wanted to communicate?

Physical and Mental Issues

5. Do you think online sessions have had any impact on your physical and mental health? Why or why not, please explain.

Training for using technology

6. Did you receive training on using technology for your online classes? If yes/no, please explain briefly.

Feedback

7. Did you receive adequate feedback that was effective for your learning from your instructor during COVID-19 online learning? Please explain your answer.

Other aspects of online classes

8. What other aspects of online learning during COVID-19 would you like to share?

Appendix 2 presents questionnaire on qualitative data to identify the challenges and benefits of COVID-19 online learning.

Appendix 2. Qualitative.

Beginning of online classes

1.   How do you perceive the shift to online learning during the COVID-19 pandemic?

Technology

2. How was your experience with internet connection and using technological devices during online classes during the COVID-19 pandemic?

Home environment

3. How was your home environment for online classes?

Financial condition

4. Did the sudden shift from offline to online cause any impact on your financial condition? Please elaborate.

5. Did you have the appropriate device/s to participate in online classes? Kindly mention what sort of device you have used.

Physical and mental health

6. Do you think online sessions have had any impact on your mental health? Please elaborate.

7. Do you think online sessions have had any impact on your physical health? Please elaborate.

Feedback

8. How was your experience with receiving feedback during online classes? Please elaborate.

9. Did you find online classes helpful?

Other comments

10. Would you like to add any other comments regarding your COVID-19 online classes and their experience?