

Online Learning in Bangladesh: Pandemic Experiences and Post-Pandemic Lessons

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Abstract: This study explores University of Dhaka students' online learning experiences during the COVID-19 pandemic and their relevance to contemporary blended education in Bangladesh. A cross-sectional online survey (n = 147), conducted among University of Dhaka students in late 2020 and analyzed with descriptive statistics, chi-square tests, and Mann–Whitney U tests, revealed YouTube, Coursera, and Khan Academy as preferred platforms, with flexibility and affordability as key motivators. Major barriers included poor internet, device shortages, and cost—disproportionately affecting rural and low-income students. Despite high enrollment, completion rates were low, and students called for better pedagogy and interactivity. Findings offer critical insights for equitable, technology-enhanced higher education in post-pandemic Bangladesh.

Keywords: Online learning; Bangladesh; COVID-19; Digital equity; MOOCs

INTRODUCTION

Human civilization has continuously evolved through innovation, particularly in education, which remains a cornerstone of societal progress. Historically, teaching and learning systems have adapted to meet the needs of their time, transitioning from oral traditions to structured classrooms and now to digital platforms (Spatar-Kozachenko et al., 2024). However, the unprecedented emergence of the COVID-19 pandemic in early 2020 disrupted traditional educational systems worldwide (D'Orville, 2020). As a result of the pandemic, authorities put in place restrictions such as lockdowns and social distancing that required educational institutions to quickly turn to remote learning. Universities faced a unique challenge in maintaining academic continuity for millions of students, creating unprecedented levels of reliance on online teaching and learning environments (Purcell & Lumbreras, 2021).

The rapid transition to online learning was not a decision but a necessity. The need for every student and educator along with policymakers for an immediate transition meant that the community was indeed intensively discussing its implications (Dhawan, 2020). According to Azevedo et al. (2022), at the peak of the pandemic, over 1.5 billion students across 191 countries were affected by school closures. This evolution spurred serious conversations about whether online learning was effective and sustainable as an alternative to in-person learning, especially at the university level (Stoian et al., 2022). Although online learning was gaining significance before the pandemic, the crisis acted as a catalyst, pushing it into the limelight of education delivery (Khamis et al., 2021).

Online learning, also called e-learning or digital learning, involves delivering educational content via digital devices to facilitate learning (Ayu, 2020). Its growing popularity is primarily due to convenience and flexibility compared to traditional means of education (Van Doorn & Van Doorn, 2014). Features such as narrated animations, instructional videos, hypertext, educational games, and simulations enhance its appeal (Liu & Elms, 2019). Online learning has become indispensable in higher and elementary education institutions and schools (Ali, 2020). Its fundamental characteristics, such as accessibility, flexibility, interactivity, and collaboration, contribute to its rapid expansion (Sherron & Boettcher, 1997).

Despite the increasing number of online courses, the quality varies widely as they are offered by diverse institutions and individuals (Xu & Xu, 2019). The benefits of online learning include a sense of security and comfort, while challenges include higher rates of unsuccessful course completion (Curelaru et al., 2022). Globally, the usability and convenience of online learning have significantly improved, with platforms providing learners access to expert knowledge across various disciplines. These courses range from free to paid, with free courses generally attracting more learners due to financial constraints (Vlasenko et al., 2023).

In Bangladesh, the challenges of transitioning to online learning were particularly pronounced. Issues such as poor internet connectivity, financial constraints, and lack of devices disproportionately affected students in rural areas and public universities (Badiuzzaman et al., 2021). Despite these barriers, many students engaged with online platforms like Coursera, Udemy, and Khan Academy, seeking opportunities to continue their education during the pandemic (Gupta & Chopra, 2022). As higher education reopens and transitions into a blended or hybrid mode in 2025, it is essential to revisit these pandemic-era experiences (Hsu, 2025).

Although there is a growing body of international literature on online learning, a significant gap remains in contextualized studies focusing on the long-term implications of this forced digital shift in resource-constrained environments. Research often focuses on the immediate crisis response. There is a pressing need to analyze the transition from emergency remote teaching to sustainable digital pedagogy in contexts like Bangladesh.

The aim of this study is to examine the online learning experiences of Bangladeshi public university students during COVID-19 and to explore the continuing relevance of these findings for today's blended and technology-enhanced higher education.

Based on this objective, the following research questions (RQs) guided this study.

RQ 1: What were the primary platforms used by University of Dhaka students for online learning during the COVID-19 pandemic, and how do these patterns remain relevant today?

RQ 2: What barriers and challenges did students face in accessing and completing online learning, and to what extent do these challenges persist in the current higher education context?

RQ 3: What types of content did students engage with most frequently during the pandemic, and how do these preferences inform current trends in online and hybrid learning?

RQ 4: What positive factors motivated students to adopt online learning, and how can these insights support sustainable blended learning in Bangladesh?

Literature Review

The rapid advancement of digital technologies (computers, mobile devices, the internet, social media, and online platforms) has sparked debates about their impact on students' intellectual and cognitive development (Cavanaugh et al., 2016). The integration of technology into education has evolved significantly over centuries, transitioning from oral traditions to structured classrooms and, more recently, to digital platforms (Dede, 1996; Gibson, 1996). The advent of the internet and multimedia tools in the 21st century further accelerated the growth of online learning, making it accessible to a global audience (Cook & Sonnenberg, 2014). Bozkurt (2019) argues that distance learning emerged as a solution to challenges such as geographical barriers and resource limitations, with early forms of correspondence courses paving the way for modern online education. Platforms like MOOCs (Massive Open Online Courses) gained renewed attention during that period and became essential tools for ensuring academic continuity (Rulinawaty et al., 2023). Lasekan et al. (2024) note that online learning became a critical method to ensure educational

continuity, notably in higher education institutions where student engagement emerged as a pivotal factor influencing academic success in virtual settings.

Research highlights some advantages of e-learning, including flexibility, cost-effectiveness, and accessibility. [Mahlangu \(2017\)](#) states that online learning gives students autonomy by allowing them to learn at their own pace, which is particularly important for adults and working professionals. [Moura et al. \(2017\)](#) suggest that one of the affordances of online learning is the democratization of education by providing access to high-quality resources with fewer impediments of distance. In an increasingly digital marketplace, engaging platforms like the Coursera website, Khan Academy, and Udemy have become preferred for learners wishing to develop skills or further their academic knowledge ([Ibbrahim et al., 2024](#)). Studies also underscore the cost-effectiveness of online learning, with the presence of numerous free as well as paid courses that fulfill the needs of different kinds of learners ([Rees et al., 2022](#)).

Although online learning offers many pre-conditions for a successful experience, there are challenges. Early research found challenges like limited interaction, slow feedback, and technology issues as barriers to learning ([Ferri et al., 2020](#)). However, the coronavirus pandemic only aggravated such problems, especially in developing countries where infrastructure cannot support equitable access. For instance, [Kaur and Dutt \(2025\)](#) note that slow internet access and budget constraints weigh disproportionately upon those students who reside in rural communities, a situation that resembles that of the majority of Bangladeshi students during the pandemic. According to [Knipp Silva and Scarlota \(2021\)](#), language barriers and the absence of formal content have also been cited as obstacles to effective participation. [Lee \(2014\)](#) found that despite graduate students valuing the flexibility of online modules, they were still unhappy with feedback and course design. Likewise, issues of digital equity such as inadequate access to reliable internet, affordability of devices, and language barriers continue to hinder effective participation, most notably in developing countries.

Massive open online courses have emerged as a significant component of online education with access to global content and expertise ([Mahajan et al., 2019](#)). Once primarily repositories of educational content, these platforms are now positioned as genuine learning ecosystems with adaptive learning technologies, peer interaction capabilities, and industry partnerships ([Isaeva et al., 2025](#)). A study by [Milligan and Littlejohn \(2017\)](#) shows that students are motivated to prepare for careers, have personal curiosity, and fill knowledge gaps. However, MOOCs' retention rates are usually extremely low, thus highlighting the barriers associated with remaining motivated and engaged. To tackle this, gamification and interactive design elements have been proposed as practical strategies to boost learner motivation ([Badali et al., 2022](#)).

Changing trends have continued to transform the online learning landscape. Gamification integration is one of those trends that are known to keep learners motivated and engaged by applying game elements within educational platforms ([Vetrivel et al., 2024](#)). Similarly, the role of social media is double-edged; while it can foster engagement and facilitate informal learning communities, it can also serve as a significant source of distraction, echoing earlier debates about technology's dualistic influence ([Pang, 2025](#)).

While international research has provided extensive insights into online learning, relatively few studies have focused on Bangladesh. In developed countries, students benefit from robust digital infrastructure and widespread internet access, enabling seamless participation in online courses ([Adeniyi et al., 2024](#)). A study conducted by [Amit et al. \(2022\)](#) revealed that during COVID-19, students in Bangladesh engaged heavily with YouTube and global MOOC platforms, but completion rates were low and barriers remained significant. [Yang and Hsieh \(2013\)](#) highlight disparities in engagement patterns among secondary school students, suggesting that gender, academic year, and geographic location influence online learning behaviors.

Despite the growing body of international research on online learning during COVID-19, few studies have focused specifically on the experiences of students in Bangladesh. There exists a notable gap in the literature concerning students' perceptions, challenges, and behaviors related to online learning during the COVID-19 pandemic, as well as how these patterns continue to be

relevant today. Addressing this gap is essential for gaining insights into how online learning can be adapted to better meet the needs of students across various educational contexts.

METHOD

Research Design

This study adopted a quantitative, cross-sectional research design to investigate the online learning experiences of public university students during the COVID-19 pandemic. A descriptive approach was used to identify patterns of platform use, barriers, benefits, and motivating factors. The findings serve both as a record of pandemic-era practices and as a baseline for understanding current developments in blended learning.

Population and Sample

The target population consisted of students enrolled at public universities in Bangladesh. Due to accessibility and resource constraints, the sample was drawn exclusively from the University of Dhaka, one of the largest and most representative public universities in the country. A random sampling technique was employed to minimize bias, and the survey link was distributed via social media platforms such as Facebook, Messenger, WhatsApp, Instagram, and Gmail.

Out of approximately 300 students reached, 153 participated in the survey. After excluding incomplete responses, 147 usable responses were retained for analysis. While the sample size is relatively small, it provides a snapshot of online learning behaviors during the pandemic, particularly among students in Bangladesh.

Data Collection

Data were collected through a self-administered online questionnaire distributed via Google Forms in late 2020, during the height of the COVID-19 pandemic. The questionnaire included closed-ended questions to capture demographic information, online learning platform usage, preferred learning media, enrollment behaviors, barriers faced, motivating factors, and perceptions about online learning quality. The instrument was designed to allow quantitative analysis of students' digital learning habits and challenges.

Data Analysis

Collected data were exported from Google Forms and analyzed using IBM SPSS Statistics version 25 and Microsoft Excel for descriptive and inferential statistics. Frequency distributions, percentages, means, and standard deviations were calculated to summarize the demographic characteristics, usage patterns, and perceptions of online learning.

Chi-square tests were performed to examine associations between categorical variables, such as gender, academic year, platform preferences and online learning barriers. The Mann-Whitney U test was applied to compare platform usage, media engagement patterns, and device preferences across genders.

RESULTS

Demographic Information

The demographic characteristics of the participants are summarized in [Table 1](#). The majority of respondents (65.3%, $n = 96$) belonged to the 23–25 age group, followed by the 20–22 age group (27.9%, $n = 41$). The sample was predominantly male (80.3%, $n = 118$), with female participants comprising 19.7% ($n = 29$).

Academically, as shown in [Table 2](#), nearly half of the participants (46.3%, $n = 68$) were from the Faculty of Arts. Students from the Faculty of Business Studies (15.7%, $n = 23$) and Social Sciences (11.6%, $n = 17$) were also well-represented. In terms of academic level, more than half of the respondents (55.1%, $n = 81$) were Master's students, followed by fourth-year (17.7%, $n = 26$) and second-year (12.9%, $n = 19$) students.

Table 1. Demographic information

Characteristic	Frequency	Percent
Age		
17–19	2	1.36
20–22	41	27.9
23–25	96	65.3
26–28	8	5.44
Gender		
Male	118	80.3
Female	29	19.7

Table 2. Academic information

Faculty	Frequency	%
Arts	68	46.26
Social Science	17	11.56
Business Studies	23	15.65
Science	16	10.88
Engineering and Technology	9	6.122
Biological Science	9	6.122
Institute	5	3.401
Academic Year		
1st year	9	6.1
2nd year	19	12.9
3rd year	12	8.2
4th year	26	17.7
Master	81	55.1

Online Learning Behaviors and Platform Preferences (N = 147)

The analysis of online behaviors and platform preferences revealed that YouTube was the dominant platform for video consumption, used by 62.6% ($n = 92$) of the students. Facebook was a distant second at 21.8% ($n = 32$), while other platforms like Instagram, Vimeo, and Dailymotion saw negligible use (Table 3).

Table 3. Online learning behaviors and platform preferences

Platform	Frequency	Percent
YouTube	92	62.6
Facebook	32	21.8
Instagram	1	.7
Vimeo	1	.7
Dailymotion	1	.7
Others	3	2.0
Total	130	88.4

Online Learning Habits and Preferences

A significant majority of students (78.2%, $n = 115$) reported being accustomed to online learning methods. For the 21.8% ($n = 32$) who were not, the primary barriers were poor network connectivity in rural areas (13.6%, $n = 20$) and a lack of interest (10.2%, $n = 15$). Other reasons included the cost of courses (6.8%, $n = 10$) and the unavailability of devices (3.4%, $n = 5$) (Table 4).

Regarding learning medium preferences, text-based blogs were the most favored (48.3%, $n = 71$), closely followed by video-based content (42.9%, $n = 63$). Audio-based learning was the least popular (9.5%, $n = 16$). An overwhelming 80.4% ($n = 90$) of students preferred freely available learning materials, while only 5.4% ($n = 6$) subscribed to paid courses.

Table 4. Online learning habits and preferences

Online learning habit	Frequency (N = 147)	%
Yes	115	78.23
No	32	21.76
Reasons for not having		
Having no interest	15	10.2
Not having devices	5	3.4
Poor network	20	13.6
Didn't think about	14	9.5
High course prices	10	6.8
Preferred online learning medium		
Text	71	48
Audio	16	9
Video	63	43
Free or paid preference		
Free	90	80.35
Paid	6	5.35
Free and Paid	16	14.28

Preferred Online Learning Platforms

Among dedicated online learning platforms, Coursera was the most widely used, with 51.7% (n = 76) of students utilizing it. Khan Academy (17.0%, n = 25) and Udemy (12.9%, n = 19) were also popular. A notable portion (14.3%, n = 21) used local platforms like “10 Minute School” and “OnnoRokom Pathshala” (Table 5).

Table 5. Preferred online learning platforms

Platforms	Freq	%
Coursera	76	52
Others	21	14
Udacity	2.9	2
Khan Academy	25	17
Udemy	19	13
Edx	2.9	2

Number of Enrolled Courses and Completion Status

Despite high enrollment, course completion was a significant challenge. As shown in Table 6, 39.5% (n = 58) of students had enrolled in courses but had not completed any. Only 13.6% (n = 20) had enrolled, completed, and received certification for a course. A combined 44.9% (n = 67) of respondents had enrolled in 1–5 courses.

Table 6. Number of enrolled courses and completion status

Category	Frequency	%
Number of enrolled courses		
0–5	26	17.7
1–5	67	44.9
6–10	19,13	9.9
10–15	22,4	1.4
More than 15	7,1	0.7
Position of online learning		
Enrolled but not completed yet	58	39.5
have not enrolled yet	19	12.9
enrolled, completed, but not certified	16	10.9
Enrolled, completed, and certified	20	13.6
have no interest	18	12.2

Perceptions on Quality and Areas for Improvement

When asked what aspects of online learning platforms needed improvement, the largest proportion of students (40.8%, $n = 60$) identified the teaching system and pedagogy as the primary area. This was followed by the need to ease the enrollment process (16.3%, $n = 24$) and improve the exam system (13.6%, $n = 20$). Fewer students focused on video quality (12.9%, $n = 19$) or the certification process (8.2%, $n = 12$) (Table 7).

Table 7. Aspects of online learning platforms needing improvement

Aspect	Frequency	%
Video Quality	19	12.9
Teaching System & pedagogy	60	40.8
Exam System	20	13.6
Easing Enrollment Process	24	16.3
Certification	12	8.2
Total	135	91.8

Perceived Usefulness and Learning Focus

As shown in Table 8, 46% of respondents often engaged with departmental content, followed by IT-related topics (17%) and language learning (8.6%). Least studied areas included science and international affairs.

Table 8. Frequency of engagement with content areas

Content area, n (%)	Sometimes	Rarely	Neutral	Frequently	Almost always	Std. Dev.
Department	52(22)	14(8.28)	16(10.2)	22(17.9)	32(46)	13.89
IT	35(15)	31(18.3)	27(17.2)	22(17.9)	12(17)	7.96
Language	36(15)	31 (18.3)	32(20.4)	22(17.9)	6(8.6)	10.72
International	36(15)	32(18.9)	28 (17.8)	21(17.1)	4(5.7)	11.24
Social Science	44(18)	34(20.1)	17(10.8)	20(16.3)	9(13)	12.54
Science	37(15)	27(16)	32(3.67)	16(13)	10(7)	10

Stimulating Factors of Online Learning

The study identified several factors that stimulate interest in online learning. As presented in Table 9, the most agreed-upon positive aspects were time-saving ($M = 3.42$, $SD = 1.06$) and the opportunity for diversified learning ($M = 3.62$, $SD = 1.38$). Flexibility ($M = 3.54$, $SD = 1.28$) and lower cost ($M = 3.30$, $SD = 0.86$) were also notable motivators.

Table 9. Positive aspects of online learning (stimulating factors)

Factor, n (%)	Strongly Disagree	Disagree	Neutral	Agree	Strongly agree	Std. Dev.
Time Saving	33(15.57)	17(7.94)	24(7.82)	42 (11.7)	16 (12)	11.06
Lower cost	23(10.85)	22(10.3)	28(9.12)	39 (10.8)	16 (12)	8.62
Flexibility	17(8.019)	15(7.01)	35(11.4)	39 (10.8)	18 (13)	11.28
Interactive	16(7.547)	28(13.1)	35 (11.4)	30 (8.33)	12 (8.8)	9.76
Responsive	31(14.62)	35(16.4)	36 (11.7)	30 (8.33)	8 (5.8)	11.47
Access to expert	16(7.547)	26(12.1)	40 (13)	26 (7.22)	12 (8.8)	10.86
Network Building	18 (8.491)	22(10.3)	36 (11.7)	33(9.17)	10 (7.3)	10.73
Diversified Learning	19(8.962)	16(7.48)	10 (3.26)	46 (12.8)	23 (17)	13.81
Standard	17(8.019)	24(11.2)	31 (10.1)	37 (10.3)	13 (9.5)	9.84
Enriching resume	22(10.38)	9(4.21)	32(10.4)	38 (10.6)	9 (6.6)	13.17

Barriers to Online Learning

The analysis of the barriers in Table 10 revealed that network problems ($M = 3.86$, $SD = 1.61$) and language barriers ($M = 3.50$, $SD = 1.29$) were the most severe obstacles faced by

students. Technical issues ($M = 3.21$, $SD = 1.17$) and the cost of certificates ($M = 3.02$, $SD = 1.14$) were also notable impediments.

Table 10. Barriers to online learning

Barrier, n (%)	Extremely	Moderately	Neutral	Somewhat	Not at all	Std. Dev.
Language	39 (30)	30 (23)	27 (20)	22 (17)	14 (11)	9.28
Technical Issues	26 (20.2)	36 (27.9)	27 (20.9)	28 (21.7)	12 (9.3)	8.67
Network Issues	51 (39)	33 (25)	22 (17)	15 (11)	11 (8.3)	16.08
Device Limitation	30 (126)	39 (23.8)	24 (31)	16 (19)	17 (12.7)	9.57
Cost	30 (24)	35 (28)	30 (24)	14 (11)	17 (13)	9.14
Paying Money	30 (24)	34 (27)	29 (23)	12 (9.6)	20 (16)	8.88
Previous experience	33 (26.2)	37 (29.4)	26 (20.6)	12 (9.52)	18 (14.3)	10.32

To explore the relationships between demographic, academic, and behavioral variables regarding online learning, both chi-square tests and Mann–Whitney U tests were conducted. A significant association was found between students' academic year and their frequency of watching educational content ($\chi^2 = 30.797$, $df = 16$, $p = .014$), suggesting that students at different academic levels engage with educational videos at varying frequencies. However, no significant relationships were observed between academic year and the number of enrolled courses ($p = .453$) or preferred learning medium ($p = .798$). Additionally, gender showed no significant relationship with preferred learning medium ($p = .790$) or position in online learning ($p = .806$), and similarly, age was not significantly associated with these variables either. Interestingly, a significant relationship was identified between gender and the type of enrollment (free, paid, or both) in online learning platforms ($\chi^2 = 13.833$, $df = 2$, $p < .001$), indicating gender-based differences in how students engage with course payment models. No significant associations were found between enrollment type and other demographic factors such as age, department, or academic year.

Further, no statistically significant associations were observed between aspects needing improvement (such as teaching system, exam system, certification, etc.) and variables like age ($p = .458$), gender ($p = .617$), or department ($p = .594$). Regarding online learning barriers, chi-square tests revealed no significant relationships between demographic variables (age, gender, department, academic year) and challenges like language proficiency, technical knowledge, device availability, cost, lack of interest, or previous experience.

In addition, Mann–Whitney U tests were conducted to compare male and female participants across several online learning behaviors. No statistically significant gender differences were found in daily hours spent on platforms ($p = .118$), the most used platform ($p = .482$), frequency of watching educational content ($p = .482$), preferred media format ($p = .173$), most popular learning platform ($p = .356$), number of enrolled courses ($p = .712$), enrollment types ($p = .574$), and the purpose of learning across various subjects including departmental content, IT, languages, international affairs, and science (all $p > .05$). However, significant gender differences were noted in the frequency of platform use ($U = 1290.000$, $p = .044$), frequency of watching sports content ($U = 1214.500$, $p = .018$), and the types of devices used for online learning ($U = 1373.000$, $p = .030$). These findings indicate that while most learning behaviors are similar across genders, differences emerge in technology use and media engagement patterns.

DISCUSSION

The current study investigates various aspects of online learning preferences and behaviors among students at the University of Dhaka during the height of the COVID-19 pandemic. The findings provide valuable insights into platform usage, content preferences, barriers to online learning, and positive aspects of this mode of education. Below, we discuss these findings in detail, comparing them with existing literature and highlighting their relevance to current educational challenges.

Platform Preferences

One of the key findings of this study is the widespread use of platforms like YouTube, Coursera, and Khan Academy for educational purposes. YouTube emerged as the most frequently used platform, followed by structured learning platforms such as Coursera and Udemy. [Shahriar et al. \(2023\)](#) support the finding that YouTube and global MOOC platforms such as Coursera, edX, and Udemy have played significant roles in facilitating learning and development during COVID-19 and beyond in Bangladesh. At the same time the significant use of local platforms like “10 Minute School” indicates a growing niche for culturally and linguistically contextualized content. This aligns with [Amit et al. \(2022\)](#), who noted the growing popularity of MOOCs in Bangladesh and India during the pandemic. However, the preference for free courses over paid ones underscores affordability as a critical factor, a trend also observed by [Thelma et al. \(2024\)](#).

While these platforms remain popular today, advancements in AI-based tools and adaptive learning technologies have introduced new possibilities for personalized learning experiences ([Strielkowski et al., 2025](#)). For policymakers and educators, this implies a need for a multi-platform strategy that meets students where they are, potentially by integrating reputable YouTube resources into formal curricula and forging partnerships with global MOOC providers to reduce cost barriers.

Barriers to Online Learning

The study identified several significant barriers to online learning, including poor internet connectivity, financial constraints, language issues, and technical difficulties. Networking issues were cited as the most significant obstacle, with 39% of respondents reporting it as a major barrier. These findings are consistent even in 2025, particularly in developing countries like Bangladesh, where digital infrastructure remains unevenly distributed ([Shelly, 2025](#)).

Language barriers and technical difficulties were also reported as moderate challenges, emphasizing the need for multilingual resources and better technical support systems. These challenges echo findings from more recent research in Bangladesh and South Asia, which shows that digital inequity continues to limit access, particularly for rural and lower-income students ([Aziz & Hossain, 2024](#)). Although infrastructure improvements have been made under the government’s “Smart Bangladesh” and blended-learning initiatives, disparities remain evident. A recent study by [Mojumder et al. \(2025\)](#) reported that while urban students benefited from faster 4G/5G access, rural students still faced unstable connectivity, affecting participation in synchronous classes. Thus, the pandemic-era challenges documented in this study remain highly relevant in 2025, underscoring the need for affordable, inclusive digital access.

Content Preferences

Students primarily engaged with department-related content, followed by IT skills, international affairs, and social sciences. This reflects a practical approach to e-learning with an emphasis on skills and career-relevant knowledge. It is in line with the recent literature, showing that students currently prefer courses with a direct career application, such as ICT, digital literacy, and communications ([Ahammad & Islam, 2026](#)). Worldwide, MOOCs and short online certifications have been undergoing an enrollment surge in job-relevant fields such as coding, data analysis, and artificial intelligence ([Arias et al., 2025](#)). The preference for flexible, skill-based content points toward a possibility for universities in Bangladesh to form further partnerships with worldwide platforms, incorporating certified short courses into their curricula that eventually help in improving employability outcomes for students.

Interestingly, science-related topics were among the least explored, probably due to the complex nature of the material or limitations of online delivery systems. This finding, therefore, emphasizes the need for innovative teaching approaches that may successfully explain complex concepts in the virtual environment.

Positive Aspects of Online Learning

Respondents emphasized a number of positive aspects regarding online learning, namely flexibility, reduced costs, and various time-saving facilities. Flexibility, time-saving, and diversification further signify that students appreciate the control and efficacy that well-designed online learning can provide. This is a clear opportunity for universities. By developing, designing, or curating high-quality online modules in important areas like IT, or key topics in their own departments, they can contribute directly to the scholars' success and employability. This is consistent with, and reaffirms, the findings of [Ruswandi et al. \(2025\)](#), who reported similar perceptions among graduate students. Flexibility was particularly valued, with 68.07% of respondents strongly agreeing that online learning offered greater convenience compared to traditional classroom settings and 57.98% believed that online learning simplified course participation.

However, concerns about interactivity and responsiveness underscore the need for improvements in teaching methodologies and course design. Latest findings suggest that adding interactive features such as quizzes, polls, and gamification techniques could tremendously enhance student interest in the online learning environment ([Leong, 2025](#)). Apart from that, students were dissatisfied with video quality and inability to change exam systems. This suggests there may be opportunities for platform design improvements and revisions to the assessment system.

Implications for Post-Pandemic Educational Practice

Findings of this study have several implications for strengthening higher education of Bangladesh beyond the pandemic phase. First of all, persistent issues of fluctuating connectivity and limited device access reflect a greater need for closer collaboration between the government and the private sector to implement low-cost internet packages and expand coverage nationwide. Universities should also explore device loan programs or subsidies for disadvantaged students to reduce digital inequities.

Secondly, the research demonstrated that while students were actively interacting with websites like YouTube and Coursera, course-completion rates were remarkably low. Universities can respond to this issue through restructuring their online course materials as compact, modular components that integrate interactive activities and instant feedback and may produce higher student motivation and retention.

Thirdly, students highlighted weaknesses of pedagogical and assessment frameworks. This highlights the pressing need for ongoing professional development programs that can help faculty develop digital teaching skills, use interactive techniques, and responsibly incorporate AI tools into their teaching practices.

Lastly, with students valuing flexibility and career-focused learning more and more, universities should broaden collaborations with international MOOC providers and integrate recognized certificates into course structures. This would achieve two objectives: (1) align with student motivations and preferences and (2) increase graduate employability prospects in an evolving labor market. By taking such steps, higher education in Bangladesh can move beyond urgent remote teaching and toward blended learning ecosystems that are sustainable, inclusive, and prepared for the future.

CONCLUSION

The current study examined the online learning experiences of students at the University of Dhaka during the COVID-19 pandemic and draws lessons for contemporary higher education in Bangladesh. Both the opportunities and ongoing challenges of digital learning under resource-limited conditions are reflected in the findings.

The study shows that although students embraced various online learning platforms like YouTube, Coursera and Khan Academy during the COVID-19 pandemic, significant barriers obstructing effective participation still exist. Network connectivity, lack of financial resources and language are also the biggest barriers (39%). These findings are evidence of the persistent digital gap that still affects educational equity in Bangladesh.

Students showed pragmatic learning preferences, focusing primarily on departmental content (46%) and IT-related skills (17%), indicating a career-oriented approach to online education. The preference for free over paid courses (80.4%) highlights the critical role of affordability in educational access. Despite high enrollment rates, course completion remained problematic, with 39.5% of students enrolling but failing to complete courses, suggesting the need for improved pedagogical design and student support mechanisms.

The study identified key motivating factors that can inform sustainable blended learning models, including flexibility ($M = 3.54$), time-saving benefits ($M = 3.42$), and opportunities for diversified learning ($M = 3.62$). However, concerns about teaching quality, with 40.8% of students identifying pedagogical improvements as the primary need, indicate that technical access alone is insufficient for effective online education.

The persistence of barriers identified during the pandemic such as connectivity issues, affordability constraints, and pedagogical quality concerns suggests that many of the emergency adaptations to online learning during COVID-19 revealed structural inequities that continue to challenge educational institutions in Bangladesh. These findings provide valuable baseline data for developing more inclusive and effective hybrid learning models as higher education transitions into a post-pandemic era.

The study contributes to the limited literature on online learning in Bangladesh by providing empirical evidence of student experiences and preferences. These insights can inform policy decisions regarding digital infrastructure investments, pedagogical training for educators, and the development of locally contextualized online learning resources.

For institutions pursuing blended learning approaches in 2025 and beyond, the findings suggest a multi-faceted strategy addressing infrastructure limitations, cost barriers, and pedagogical quality simultaneously. The ongoing importance of these findings from the pandemic highlights how crucial it is to keep focusing on digital equity and educational innovation, especially in developing countries.

Limitations and Suggestions for Future Research

While this study provides important knowledge about behaviors and attitudes linked with e-learning throughout the pandemic period, it is essential to consider its limitations. Firstly, the sample size of 147 students overall may be limited in its generalizability to the overall student population of Bangladesh, given the small size. The research was only conducted on one university (University of Dhaka), which might have led to excluding diverse opinions from other universities or regions. Secondly, as the data collection occurred throughout the pandemic period itself, it was not possible to get a larger sample size that is more representative owing to students having diverse locations and limited access to technological resources. Thirdly, the research only focused on university students and not on college students (e.g., students in their 11th and 12th grades) who might face totally different issues accessing e-learning. Future studies could address these lacunae by making comparative studies between university and college students or analyzing regional differences in accessing e-learning and associated outcomes.

Lastly, even though this study points out a number of obstacles to online learning, more investigation is required to look into possible solutions. For example, research could look into how well hybrid learning models work, how AI fits into personalized learning, or how to enhance digital infrastructure in settings with limited resources. This study provides some preliminary groundwork for considering the dynamics of online learning in a unique time of global disruption; by examining its shortcomings or building upon its achievements, future research could pave the way to more inclusive, resilient, and equitable education systems capable of adapting to future challenges.

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