Learners' Perception of Online Learning at the Tertiary Level of Bangladesh

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Abstract

Due to the fast incorporation of digital technology learning patterns have changed in higher education in not only in Bangladesh but also in the whole world. This study explores backgrounds, perspectives, digital adaptabilities, limitations of online learning in higher education among Bangladeshi university students. As a part of mixed-methods study, surveys and semi-structured interviews have been incorporated in the research, collected from the students of both private and public universities. Online learning is usually well-received because of its accessibility, self-paced study, and flexibility. However, unreliable internet access, low technological skills, lack of participatory involvement, and inadequate institutional support remain. Many students worry about virtual assessment reliability and motivation. Despite these obstacles, students believe that online education may supplement classroom instructions when backed by competent teaching and institutional resources. The study indicates that in Bangladesh, higher education sector's online learning sustainability and effectiveness depend on developing technical infrastructure, digital literacy, and interactive, learner-centred pedagogies. The research helps policymakers, educators, and institutions to improve online education frameworks and provides equal access to excellent learning in the post-pandemic period.

Keywords: *Bangladesh; Digital Pedagogy; Higher Education; Learner Perception; Online Learning; Tertiary Education*

1. Introduction

In Wuhan, China, Covid-19 (Coronavirus) broke out for the first time in the history of the world and the ever-changing world had started to further change. On 08 March 2020 this virus was identified in Bangladesh and the people were panicked acutely (Alam, et al., 2020). The educational institutions became closed to avoid physical communication and academic activities had been shifted from classrooms to online platforms. Graduate and undergraduate students (70%) participated actively in this online teaching and learning mostly with the help of Smartphone. The students also faced various

challenges like internet and socio-economic problems that might led to their dissatisfaction towards the online classes. If the classes would have been decided to keep postponed until the improvement of Covid-19 situation, the situation would become worse and the students could become anxious. Now, the online teaching quality is not the same everywhere. It varies from faculty to faculty, discipline to discipline, institution to institution, country to country. Adnan and Anwar (2020) in one of their studies have found that in Pakistan online classes on both undergraduate and post-graduate levels have become ineffective and cannot produce satisfactory outputs. In Pakistan, financial inability is one of the prime problems of effective online classes. However, in online platforms teachers and learners face numerous hindrances to make online platforms effective. Again, to make online classes effective, students' perception and their acceptability towards it, is a very important issue. Their views can help the policymakers to formulate new policies for the educational system.

1.1. Research Objectives:

This study has some research objectives. They are as follows:

1. To assess tertiary students' views towards online learning in Bangladeshi universities.
2. To assess the efficacy of online learning vs traditional face-to-face education in academic achievement, engagement, and motivation.
3. To identify important technological, infrastructural, and pedagogical issues for online learners.
4. To examine how institutional support, instructor performance, and digital resources impact online learning experiences.
5. To examine how socio-economic and geographical characteristics (e.g., urban-rural gap, internet access, device ownership) effect learners' opinions of online education.
6. To examine the psychological and social effects of online learning on students' well-being, communication, and sense of belonging.

1.2. Research Questions:

This research aims to find out several research questions. They are as follows:

1. How do Bangladeshi tertiary students view the effectiveness of online learning against regular classroom instruction?
2. What are learners' predominant views towards digital technology in higher education?
3. How do online learners assess instruction, engagement, and feedback quality?
4. Do online learning platforms assist students in academic engagement, motivation, and performance?
5. How does online learning affect students' community, peer interaction, and emotional well-being?
6. How can learners cope with virtual learning environments' isolation and stress?

1.3. Significance of the Study:

Online learning is not only an instructional matter but also a social and psychological experience. Disruptions in internet, isolation, difficulties in engagement, and anxiety have been noted in several studies. Understanding students' perceptions can shed light on sources of stress, demotivation, or psychological strain, enabling universities to develop support services (mental health counseling, peer support, orientation to online learning, etc.). Islam et al. (2023) has found that, "health, concentration, and communication problems are perceived as barriers" in addition to academic and technological factors (p.19). Though the pandemic forced emergency remote teaching, many institutions in Bangladesh may wish to retain or expand online or hybrid modes of instruction. To do so sustainably, understanding learners' perceptions is essential. The study will help in assessing which elements of online learning

students are willing to keep, which need further improvement, and how to integrate online elements in "normal" higher education contexts. It advances the discussion of shifting from emergency response to strategic, quality online education.

2. Literature Review

The COVID-19 pandemic forced institutions of higher education worldwide to adopt online modalities rapidly, making learners' perceptions of online learning a central concern for policymakers and educators (Alom et al., 2023; Sarkar et al., 2021). Emerging empirical study aims to analyse how tertiary learners in Bangladesh perceive online teaching and learning, where infrastructural heterogeneity, socio-economic inequality, and rising digital usage meet. This review synthesises empirical and review research from Bangladesh and pertinent regional work to highlight recurring results, conflicts, and gaps in the field.

2.1. Motivation, Well-Being, And Socioeconomic Factors:

Socio-economic and psychological factors influence students' views. Bangladeshi studies show that lengthy screen time, home distractions, and diminished peer contact have hurt pupils' focus, motivation, and mental health (Islam, 2023; Rahman, 2023). Online learning has increased isolation and diminished intrinsic motivation for some students, but it also has offered convenience and flexibility for others, notably for those who work or live distant from institutions (AIUB research; Bhadra, 2023). Online learning is both freeing and stressful, emphasising the need for student support services and psychosocial treatments alongside technology solutions.

2.2. Institutional and Faculty Readiness:

Private universities in Bangladesh are more agile in implementing online platforms and providing digital resources than public universities, which struggle with bureaucracy, funding, and faculty digital literacy (Sarkar et al., 2021; Islam et al., 2023). Online pedagogy and evaluation training improve course delivery and student satisfaction (Alom et al., 2023). Lack of training causes variable quality and decrease student confidence in online classes' pedagogical validity.

Several studies recommend systematic faculty development programs, investment in instructional design units, and long-term digital strategy plans. These institutional interventions are seen as necessary to move from emergency remote teaching toward sustainable, quality online and hybrid models (Alom et al., 2023; Karim, 2025).

2.3. Student Agency, Digital Literacy, and Affordances:

Learner perceptions are not only shaped by deficits but also by students' agency and competencies. Research applying frameworks such as imagined affordances highlights that students' prior familiarity with digital tools, comfort with self-regulated learning, and ability to adapt learning strategies influence how they perceive online learning (Scrip study — Islam, 2023). Where students possess higher digital literacy and self-management skills, they are more likely to view online learning as an opportunity for self-paced study and lifelong learning. Thus, digital literacy interventions at the student level (orientation courses, digital skills modules) are frequently recommended.

2.4. Comparative and Regional Studies:

A small but growing body of comparative work situates Bangladesh within broader South Asian findings. Multi-country reflections (e.g., SAARC region studies) indicate overlapping themes—connectivity, pedagogical adaptation, assessment integrity—while also underscoring country-specific political-economic constraints that mediate how online learning is experienced (Saleh et al., 2023). Comparative perspectives are useful for identifying shared policy levers (e.g., national broadband initiatives) and context-sensitive solutions.

2.5. Methodological Trends and Limitations:

Most empirical research in Bangladesh to date uses cross-sectional surveys complemented by qualitative interviews or open-ended responses. While surveys provide breadth, qualitative studies offer detailed accounts of lived experience (Bhadra, 2023; Islam, 2023). However, existing studies exhibit several methodological limitations: many are single-institution studies with convenience samples (Sarkar et al., 2021), a preponderance of short-term pandemic-era data, and limited longitudinal tracking of how perceptions evolve as institutions move to hybrid models.

The literature from Bangladesh presents a complex picture: online learning is a necessary and potentially transformative modality but one whose perceived quality depends heavily on access, pedagogy, assessment security, faculty capacity, and socio-economic context. For policymakers and institutions, the evidence indicates that investments in infrastructure must be matched by faculty development, student digital-literacy programs, equitable access measures, and supportive assessment and well-being frameworks. Future research should adopt longitudinal, mixed-methods, and intervention-focused designs to move from descriptive accounts of perception toward evidence of what empirically improves learner experience and learning outcomes in Bangladesh's tertiary sector.

3. Methodology:

This study describes the methodology for investigating learners' perceptions of online learning at the tertiary level in Bangladesh. It covers the research design, population, sampling, data collection methods, instruments, procedures, data analysis, ethical considerations, and limitations.

3.1. Participants*:*

The population for this study consists of tertiary-level learners in Bangladesh. Specifically:

- Students enrolled in public and private universities across different divisions of Bangladesh who are currently undertaking online learning (courses, lectures, assessments).
- Students from various disciplines (e.g., Business, Arts & Humanities, Science & Engineering) to capture disciplinary influences.
- Learners from different geographic locations (urban, semi-urban, rural) to capture infrastructural and socio-economic diversity.

3.2. Sample Size:

3.2.1. Quantitative component: This study has investigated a sample of approximately **600–800 students** to enable statistical analyses and subgroup comparisons (e.g., public vs private, urban vs rural).

This aligns with similar studies: Islam, Suraiya, Nargis, Rahman, Kabir, & Rahman (2021), who have surveyed 677 students using snowball sampling.

3.2.2. Qualitative component: This research interviews students from a range of backgrounds in-depth (20–30) or holds focus groups to examine thoroughly perceptions and compares to the 30 in-depth interviews conducted by Bhadra, Uddin, Ali, and Sheikh et al. (2022) with 23 students from public and private universities.

4. Data Collection

4.1. Instruments:

For collecting data two instruments have been used. They are:

4.1.1. Quantitative Survey Questionnaire: This part has gathered various components like usefulness, ease of use, satisfaction, access challenges, pedagogical quality, assessment fairness, and motivation using Likert-scale items. The Technology Acceptance Model (TAM) (Davis, 1989), Digital Equity measures, and Bangladesh-specific questions are adapted.

4.1.2. Qualitative Interviews and Group Protocol: This part has incorporated data from the semi-structured interviews about different positive elements of online learning, obstacles (technical, pedagogical, psychological), face-to-face comparison, ideas for development, and has investigated how socio-economic and geographical background affect learners' perspectives.

4.2. Procedure for Data Collection:

For collecting Quantitative and Qualitative data this research work has distributed online questionnaire using Google Forms, university LMS, email, social media. The time span for obtaining responses is several weeks.

5. Data Analysis

5.1. Quantitative Data Analysis:

5.1.1. Inferential statistics:

T-tests or Mann-Whitney U has been used for categorical groups (e.g., public vs private universities, urban vs rural). This study has tried to examine relationships among variables like, perceived ease of use vs satisfaction, access issues vs perceived effectiveness. ANOVA or Kruskal-Wallis has been tried when more than two groups have involved. The research also aims to identify predictors of overall satisfaction or perceived effectiveness of online learning.

5.1.2. Qualitative Data Analysis:

This study has engaged conduct thematic analysis (Braun & Clarke, 2006) to find common themes and sub-themes in interviews and has focused on group transcripts. For this reason, several steps have been adopted:

1. Becoming familiar with data by reading transcripts often.
2. Creating first codes (open coding).
3. Searching Theme.
4. Reviewing topics.
5. Naming and defining topics.
6. Creating the report (including quantitative data and participant quotes).
7. For structure, considering NVivo, MAXQDA, or hand coding with strict memos for reliability.

6. Discussion

Students' views on Online Learning have been discussed using Tables, Charts, and Diagrams. Tertiary students in public and private Bangladeshi universities are surveyed and interviewed in this chapter. The main goal is to assess students' views on online learning's efficacy, accessibility, engagement, motivation, and obstacles.

6.1. Demographic Characteristics of Respondents:

Table 1 shows the demographic distribution of the participants.

Table 1. Demographic Profile of Respondents (N = 750):

Variable	Category	Frequency	Percentage (%)
Gender	Male	360	48.0
	Female	390	52.0
Age	18–21 years	310	41.3
	22–25 years	370	49.3
	Above 25 years	70	9.4
University Type	Public	420	56.0
	Private	330	44.0
Residence	Urban	440	58.7
	Rural	310	41.3

Both men and women have been incorporated here with slightly more women than men. Most of the respondents are studying at private and public universities in urban and rural areas of Bangladesh. Their age limit is between 22-25.

6.2. Access to Technology and Internet:

Figure 1 demonstrates the type of devices used for online learning.

Figure 1. Devices Used for Online Learning:
- **Smartphone (65%)**
- **Laptop (28%)**
- **Desktop (5%)**
- **Tablet (2%)**

The study shows that most of the students use smartphone (65%) for online learning which presents that when it comes to access to bigger, more capable devices, there is a digital divider. Karim et al. (2025)

has found that for educational purposes almost two-thirds of Bangladeshi students use smartphones though very often they face technological barriers.

Table 2. Internet Connectivity and Learning Environment:

Statement	Agree (%)	Neutral (%)	Disagree (%)
Internet speed is sufficient for classes	38	20	42
I can afford stable mobile data packages	34	26	40
Power outages affect my classes	70	15	15
I have a quiet environment for study	47	22	31

Environment and connectivity remain major obstacles. 42% of the total students complain about internet speed that is slow, and 70% of the students has reported frequent power failure. The effect on rural learners is considerable (t = 5.26, p <.01).

6.3. Perceived Effectiveness of Online Learning:

Using a 5-point Likert scale (1 = Strongly Disagree, - 5 = Strongly Agree), Table 3 shows the perceptions of the students' learning effectiveness on online learning.

Table 3. Perceived Effectiveness of Online Learning:

Statement	Mean	SD
Online platforms help me to understand my course content clearly.	3.12	1.01
I can manage my time effectively during online learning.	3.45	0.95
I can actively involve myself in online classrooms.	2.84	1.10
Online platforms have made my communication easy with teachers and peers.	3.30	1.00
Online learning has made my assignment submission convenient.	4.05	0.88

Students have reported lack of involvement and frequent internet disconnection but they have praised convenience in assignment submission and time management. Moderate satisfaction is presented through the mean effectiveness score (M = 3.35, SD = 0.87). Islam et al. (2021) has observed that to the Bangladeshi tertiary students online learning seems to be easy but difficulties arise in poor interaction and pedagogical depth.

6.3. Interaction and Teacher Support:

Figure 2. Interaction Levels in Online Learning
- Adequate interaction – **29%**
- Limited interaction – **45%**
- Very limited or none – **26%**

Only 29% students have found that in online lectures teacher involvement has been sufficient. Almost all students have reported that instructors deliver lectures without involving themselves in live discussion and without providing comments. One student has stated that most of the time teachers just read out the slide instead of discussion. "Absence of discourse or peer engagement akin to that in classrooms"- reported by a Third-year female student at a private institution. Bhadra et al. (2022) have identified insufficient communication between teachers and students, as well as among peers, as a significant obstacle to maintain interest.

6.4. Motivation and Self-Discipline:

Table 4 shows the motivation and self-discipline aspects.

Table 4. Students' Motivation and Self-Regulation:

Statement	Agree (%)	Neutral (%)	Disagree (%)
I feel motivated to attend online classes regularly.	42	18	40
I can concentrate during online lectures.	38	24	38
I can complete my projects timely.	68	14	18
During online classes I feel lonely.	71	13	16

More than two-thirds of the students feel demotivated and lonely. However, students (68%) show responsibilities and meet deadlines though there is emotional separation.

6.6. Challenges of Online Learning:

Five key challenges are identified (Figure 3) by students from both quantitative and qualitative data.

Figure 3. Key Challenges Reported by Students:
- Poor Internet connection – **72%**
- Frequent power outages – **63%**
- Insufficient involvement – **59%**
- Complications in lecture understanding – **52%**
- Absence of motivation – **48%**

6.7. Advantages of Online Learning:

Learners have reported several advantages (Table 5) in spite of having some challenges.

Table 5. Reported Advantages of Online Learning:

Advantage	Frequency	Percentage (%)
Saves travel time and cost	520	69.3
Flexible schedule	470	62.7
Easy access to materials	390	52.0
Increased digital literacy	280	37.3
Opportunity to learn at own pace	240	32.0

Hasan and Bao (2020) have stated that, online education is considered convenient and comparatively easy to Bangladeshi students as they can manage both family and part-time employment.

6.8. Comparison between the Students of Private and Public Universities:

Table 6 shows the score of perception by university type.

Table 6. Comparison of Mean Perception Scores:

Dimension	Public (M, SD)	Private (M, SD)	t-value	p-value
Access & Connectivity	2.80 (0.75)	3.45 (0.70)	6.12	$< .001$
Teaching Quality	3.10 (0.82)	3.45 (0.77)	4.20	$< .01$
Motivation & Engagement	3.00 (0.90)	3.38 (0.85)	3.55	$< .01$
Overall Perception	3.10 (0.81)	3.43 (0.78)	4.01	$< .01$

In all dimensions the students of Private universities have shown significantly higher satisfaction. Better institutional support, teacher training, LMS platforms in private institutions are probably reflected through this satisfaction (Karim et al., 2025).

7. Findings:

A mixed perception is revealed through the findings. When the flexibility and conveniences of the online learning are appreciated by the students, they also express their concern against lack of interaction, feelings of isolation, and poor technological support.

- Islam et al. (2021) have reported similar ambivalence that is high convenience but low engagement.
- Bhadra et al. (2022) have noted that "while students acknowledge time-saving benefits, poor interactivity limits effective learning" (p.51).
- Karim et al. (2025) have emphasized that LMS should be integrated and training should be arranged for the teachers to improve their ability.

In higher education, online learning has become an integral part in Bangladesh, especially after the Covid-19 pandemic. However, many students are unhappy for the institutional, psychological and pedagogical constrains of online platforms. Moreover, students find difficulties in using Tables, Charts, and Diagrams on online platforms. Over two-thirds of Bangladeshi university students consider online learning "a necessary but ineffective alternative" to regular classrooms, according to Sarkar et al. (2021). This section uses quantitative (survey) and qualitative (interview) data to show Bangladeshi tertiary students' online learning disadvantages.

7.1. Technological Barriers:

Technological limitations constitute the most frequently cited disadvantage of online learning. Students often struggle with unstable internet connections, limited data access, and power interruptions (Rahman & Khalid, 2023).

Table 1. Technological Barriers Reported by Students (N = 750):

Technological Issue	Frequency	Percentage (%)
Poor internet connectivity	540	72.0
Frequent electricity failure	470	62.7
High cost of mobile data	410	54.7
Lack of personal computer/laptop	360	48.0
Audio/video distortion during class	320	42.7

Table 1 shows that 72% of students have inadequate connectivity and 62.7% have power interruptions. Islam et al. (2023) has found that internet instability disturbs class participation mostly, causing student tiredness and disengagement.

Figure 1. Major Technological Challenges (Bar Chart Description):

- Poor internet – **72%**
- Electricity failure – **63%**
- High data cost – **55%**
- Device shortage – **48%**
- Audio/video issues – **43%**

The data shows that Bangladesh's biggest obstacle to online education is technology. Poor broadband access and economic restrictions hurt rural students more (Kabir & Mondal, 2025). "Sometimes I can't join class for two days because my data runs out and I can't recharge"- a 3rd-year male student from a public university has reported.

7.2. Lack of Interaction and Engagement:

Table 2. Responses on Interaction and Engagement:

Statement	Agree (%)	Neutral (%)	Disagree (%)
During classes teachers inspire active participations of the students.	35	22	43
Questions can be asked freely and responses are available timely.	40	20	40
During online classes discussions among peers are common.	30	25	45
Students get actively involved during online classes.	29	26	45

Approximately 30% of the total students support online learning. Students complain the most against various communication issues, almost half of the students show dissatisfaction as they cannot effectively communicate in online classes. Alom et al. (2023) has explored that as instructors transform themselves from "facilitators" to "slide presenters" students' involvement and learning get reduced in online platforms.

Figure 2. Interaction Level Perception (Pie Chart Description):

- Highly interactive – **18%**
- Moderately interactive – **31%**
- Poorly interactive – **51%**

7.3. Psychological and Emotional Challenges:

Stress, fatigue, and loss of motivation have been increased among students. Screen time has been extended, social isolation and uncertainty about academic progression have been common aspects.

Table 3. Psychological Impacts of Online Learning:

Psychological Factor	Agree (%)	Neutral (%)	Disagree (%)
During online classes I feel isolated.	70	15	15
Headaches and eye strain have become my daily experience.	65	20	15
Lack of motivation is very common during online classes.	60	22	18
I feel anxious about my academic progress.	58	25	17
I prefer physical interaction with peers and teachers.	80	10	10

During online lectures 70% of the students feel themselves isolated and disconnected from others. Students' motivation and communitive skill are lowered as there is physical distance from teachers and peers. According to Rahman (2023), higher digital workload and lack of involvement result "emotional exhaustion and detachment" in learners. One of the students reports, "I feel alienated in online classes". Another says, "attending doesn't make me feel like a part of the class".

7.4. Pedagogical and Instructional Ineffectiveness:

Many students consider online platforms pedagogically less effective, for its monotonous delivery and inadequate technological skills of teachers.

Table 4. Perception of Instructional Quality:

Statement	Mean	SD
To deliver online lectures, most of the teachers use necessary materials.	2.95	1.01
Online tools are well-adopted and students can understand lectures easily.	3.20	0.94
Teachers provide timely feedback on assignments.	3.05	0.98
Class discussions enhance understanding.	2.80	1.05
Teaching quality is similar to face-to-face classes.	2.70	1.00

Figure 3. Pedagogical Challenges (Column Chart Description):

- Monotony of lectures – **64%**
- Lack of feedback – **58%**
- Limited course design – **53%**
- Lack of instructor training – **49%**

Inefficient teaching reduces understanding and online learning motivation. Karim et al. (2025) have said that "teachers' digital readiness is as vital as students' technological access" (p.33).

7.5. Assessment-Related Difficulties:

Assessment integrity and fairness remain major concerns. Students often question the validity and transparency of online examinations.

Table 5. Assessment Issues Experienced by Students:

Assessment Issue	Frequency	Percentage (%)
Unclear grading criteria	410	54.7
Technical errors during exams	380	50.7
Difficulty submitting assignments	300	40.0
Cheating or unfair advantages	270	36.0
Delayed feedback	330	44.0

Grading has been confusing or uneven for over half of pupils. Technology issues during tests and delayed responses have raised dissatisfaction. Islam (2023) has found that pupils question the credibility of online assessment systems. "The system locked me out throughout examinations, so I couldn't log in. No fault of mine, I lost marks"- says a 2nd-year male student from a private university.

8. Conclusion and Recommendations:

This study has given some recommendations to improve online learning. It suggests the government and the university authorities to come together to initiate joint financial impetus packages to promote higher education through online platforms. By these joint financial packages, students may be

boosted to shift to smartphone from laptop which will make the online classes easier and more effective. This study recommends forum for online discussion that may promote significant interactions between the instructors and learners. This research also suggests for ensuring uninterrupted internet and a low-cost power supply for both teachers and students who are the ultimate medium of exchanging knowledge.

Finally, the study advocates for more specific research where the limitations and solutions of online classes may be identified for the better quality of online classes. Industry-academia joint research work can be organized and collaborative study between the universities can be arranged. Industry-based research also can be done to bring positive changes in the online platforms.

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