Positive Exploring on Online Teaching Learning

Mahmud Hasan
Jagannath University, Bangladesh

Muhammad Ferdaus
University of Dhaka, Bangladesh

Abu Raihan
Daffodil International University, Bangladesh

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Mahmud Hasan, Muhammad Ferdaus, Abu Raihan

Article Info	Abstract
	Online education is considered a type of education in which students and faculty members use their own devices to access the internet instead of presenting physically in the institution. The present study aimed to explore positive exploration of online teaching-learning at the postgraduate level at the University of Dhaka. Under a qualitative research design, a total of 27 students and 4 faculty members were selected by convenience sampling. Semi-structured interviews for 6 students and 4 faculty members and a focus group discussion were organized for the other 21 students in three sessions. Data was analyzed using the thematic data analysis method. Treating these difficulties rigorously, this study recommended that strong network coverage, cost-efficient data packages, proper planning, incentives for faculty members, and enhancement of their skills will create a positive field of education and blended learning as an alternative to conventional teaching and learning, resulting in great outcomes in all areas. However, the study identified multiple prospective solutions, such as developing a comprehensive strategy for digital infrastructure, increasing financing for digital literacy training, and establishing partnerships between international, corporate, and governmental organizations to promote e-learning.

Introduction

An online teaching platform is a cloud service that uses smart mobile devices and mobile Internet to give instructors and students interactive instruction. Combining an online learning environment with a traditional classroom leads to an abundance of creative information, additional instructional techniques, and a more engaging classroom environment. To assist learners in moving forward, instructors use online teaching strategies, transferring their lectures to the classroom (Svihus, 2024). More family participation and instructor involvement in kids' education are encouraged in online learning contexts (Shamma, 2025). Popular intelligent online teaching systems like Rain Classroom, Duifene, and Mosoteach are currently seamlessly incorporated into conventional classrooms. Studies demonstrate that the use of an online platform in conjunction with a classroom may greatly enhance the performance of students who participate well (Wang et al. 2020). In recent times, some online teaching and learning platforms were social networking websites, websites, and e-applications such as Ten Minute School, Khan Academy, Byju, Coursera, Google Classroom, Duolingo, and Blackboard Learn, Udemy, Edmodo, Start.me, Neo, Ted-Ed, Skillshare, ClassDojo, Edmodo, Parlay, Docebo, Udem, Gynzy, Adobe Captivate, Seesaw, and Edx with available e-books, e-journals, and e-dictionaries (Mishra et al. 2020; Mahmuda, 2016). According to studies on online learning, students can improve their academic performance to a level that is on par with

traditional classroom education (Shamma, 2025).

Through important delivery systems that reflect the tools available at the time, such as the postal service, radio, television, and interactive technologies, online learning in the United States has developed over the past three centuries into what is now known as "online learning" (Anderson & Dron, 2011; Kentnor, 2015). Caleb Phillipps proposed teaching shorthand to students by exchanging letters across the nation in 1728 when he appeared in an ad in the Boston Gazette that stated, "Persons in the Country desirous to learn this art may by having the several lessons sent weekly to them, be as perfectly instructed as those that live in Boston" (Gensler, 2014). They maintained that the quality of instruction would be on par with conventional in-person instruction, much like today's teachers. A federally registered radio station was established in 1919 by a professor at the University of Wisconsin, and in the 1950s, institutions partnered with television stations to offer college courses for credit. Radio and television course delivery systems came after the parcel post. The University of Phoenix, which is now well-known for its entirely online programs, started using online technology in 1989 with CompuServe, the first online service provider, and in 1991 with the World Wide Web. In 1998, New York University launched NYU Online, which, like many other online programs that followed, failed to survive. This early failure of online programs also gave rise to the idea of "blended" or "hybrid" programs, which emerged in 1999/2000 and combined in-person and online classes in an attempt to maximize the benefits of both. Online and blended learning programs use current technology to provide synchronous/real-time and asynchronous delivery choices, as well as resources like chat rooms, online discussion boards, and video conferencing (Palvia et al., 2018).

Although online education became a popular alternative for students seeking flexibility and a better work-life-study balance, major universities paved the way by developing academic programs in response to this demand. Other reasons influenced the promotion of online education during the dispute over academic curriculum and assessment. Furthermore, many online programs function independently of their on-site equivalents, so teachers are seldom faced with unfavorable assumptions. At the same time, students continue to seek more flexible formal higher education alternatives at all degree levels and programs. Most higher education institutions have now implemented some type of online learning, even if on-campus is still the predominant mode of instruction (Sibirskaya et al., 2019).

Online teaching and learning create a broader dimension of education. Learners used the internet and connected their educational experiences to online learning. Postgraduate students in general had learnt with the conventional face-to-face methods. Contrary to offline learning systems, online learning could create some opportunities through distance learning without a physical arrangement. Online teaching and learning might be supportive of face-to-face classrooms in any aspect of learning. However, online sources could be used for other purposes of learning. The adoption of online teaching and learning has grown in recent years. From early tentative experiments with a hybrid format to fully fledged online offerings, institutions and students have seen the potential of this mode of instruction (MoI) as a catalyst for democratising access to education. Online is currently seen as a more inclusive mode of instruction that is in step with current living standards and may be a better answer for students who must combine job and family duties while skilling, reskilling, and upskilling to boost their professional prospects. Different researchers on this subject have done different types of research (Boling et al., 2012; Dumford

& Miller, 2018; Golab et al., 2025; Hadi Mogavi et al., 2024; Herodotou et al., 2025; Palvia et al., 2018; Rahiman & Kodikal, 2024; Roddy et al., 2017; Shamma, 2025). However, none of them have mentioned any research on the potential that can be found in the development of higher education through online teaching at Dhaka University. So we are positively exploring online teaching and learning at the postgraduate level at the University of Dhaka. The many instructional techniques that might encourage learners to participate in online courses are highlighted in this study.

Methodology

Nature of Study

We made the decision to use a qualitative story research approach for the study. Qualitative research looks for detailed results. The approach allows for a more comprehensive description of one's own perspective. The qualitative approach is used to uncover more details about complicated phenomena, investigate surprising occurrences, and analyses the situation that players are in. Additionally, it is utilized to display uncommon viewpoints and opinions that are rarely seen (Sofaer, 1999). According to Charles Ragin (1994), it is helpful for a multifaceted, in-depth investigation of a small number of complicated totals. It is especially helpful when investigating how an institution develops (Sofaer, 1999). I studied qualitative research design because I wanted to provide insight into online classes in general.

Study Sample

The data is provided to supplement the study. A sample is a collection of people, objects, or items selected from a large population to represent the entire community and allow the findings to be generalized (Bacon-Shone, 2015). The study used non-probability sampling to gather qualitative data on the challenges and future evolution of the online study. This method involves collecting feedback based on a researcher's sample selection capability, rather than a fixed selection process. In order to overcome obstacles such as authorization from institutional authorities and inaccessibility or unavailability of information, I used the convenience sampling approach. Some of the data was gathered from key informants and respondents. In addition, the researcher completed a semi-structured questionnaire and conducted interviews. Finally, the FGD was done to find out the inclusive opinions of students.

Sample Size

The number of subjects included in the sample size is referred to as the sample size in market research. When we talk about sample size, we're talking about a group of people who are chosen from the general population and are deemed representative of the real population for that particular research (Bartlett *et al.*, 2001). Multiple factors influence sample size in qualitative research, including the research topic, questions the study must answer, research complexity, theoretical framework, epistemological tradition, research type, used methods, research population structure, and access to it, resources, and time available to complete the study (Flick *et al.*, 2012). Under a qualitative research design, a total of 27 students and 4 faculty members were selected by convenience

sampling. Semi-structured interviews for 6 students and 4 faculty members and a focus group discussion were organized for the other 21 students in three sessions. Interview schedules for students and faculty members and FGD guidelines for students were used to collect the data. Data was analyzed using the thematic data analysis method.

Methodology Matrix of the Study

Table 1. Sample Distribution of the Study

Research Objectives	Qualitative	Sources of Data	Sample Size	Sampling Technique	Instrument/Tools	Data analysis technique
To identify opportunities of online teaching learning program of post graduate level of University of Dhak	Qualitative	University of Dhaka	8 Students from IER (4M+4F)	Convenience sampling	FGD Guideline (FGD)	Thematic Analysis
			8 Male students from faculty of Arts, Law, IER			
			5 Female Students from IER, ISWR, faculty of Arts, Social Science			
			3 Male students from IER, Faculty of Social Science		Interview Schedule (Interview)	
			3 female students from IER, Faculty of Arts			
			2 male faculty members from IER and Faculty of Social Science		Interview Schedule (Interview/KII)	
			2 female faculty members from ISW&R and Faculty of Arts			

Questionnaire Design

In this study, different tools were developed by the researcher himself and they were used for primary data collection. In addition to this, a logical discussion with the supervisor and other experts regarding the content of the questionnaire was prepared, and pre-final questionnaires were developed. The researcher selected semi-structured questions for the interview. Since a semi-structured interview is a combination of a structured interview

and an unstructured interview, it has the advantage of both. Interviewers can express their opinions and ask questions to the interviewers during the interview, which encourages them to give more useful information, such as their opinions on sensitive topics in qualitative research. And they can give reasons more easily for their answers during the interview. Also, the structural part of the semi-structured interview gives the interviewers reliable, comparable, and quality data (Keller, S., & Conradin, K. 2019). To assess the reliability of the questionnaires, sets of questionnaires were developed for pre-test purposes. The researcher prepared another set of questionnaires with slight alterations in the contents.

Data Processing and Analysis

According to Transforming Unstructured Data into Useful Information by Brown (2021), data analysis is the act of analyzing, cleaning, manipulating, and modelling data to uncover usable information, inform conclusions, and support decision-making. Data analysis has several dimensions and methodologies, including a wide range of techniques known by many names and applied in several businesses, scientific, and social science sectors (The Multiple Facets of Correlation Functions by Pruneau, 2017). Data analysis is the most important aspect of any study. The data analysis process summarizes the information gathered. It entails the use of analytical and logical reasoning in data to identify patterns, correlations, and trends. The researcher used thematic analysis writing to analyze the information that he collected. Because thematic analysis is a method of qualitative data analysis, it is generally applied to a set of texts, such as transcripts of interviews. The researcher analyzes the data closely to recognize common subjects, topics, ideas, and context trends that come up frequently. One of the most common types of analysis in qualitative research is thematic analysis (Namey & Emily, 2012). The researcher analyzed the information that he received, according to the 6 steps of Braun and Clarke. According to Braun and Clarke (2006), thematic analysis is a method for detecting, interpreting, and reporting patterns (themes) within data. The 6 steps of Braun and Clarke according to which the researcher analyzed the data are given below:

Step 1: Familiarization

The first step is to familiarize yourself with our data. The researcher must have a thorough understanding of the interaction's content and be well-versed in all parts of the data. This stage lays the foundation for the rest of the analysis. This involved transcribing audio, going through the material taking first notes, and generally familiarizing yourself with the data.

Step 2: Coding

After that, the data must be coded. Coding is the process of marking areas of our text – generally phrases or sentences – and creating brief labels or "codes" to explain their contents. At this point, the researcher read over each interview's transcript and highlighted anything that stood out as pertinent or possibly intriguing. The researcher kept adding new codes as he read through the text, in addition to marking all the phrases and sentences that matched these codes. The researcher categorized all of the information into coded groupings. By using these codes, we were able to get a quick summary of the important points and frequent meanings that were recorded

throughout the data.

Step 3: Generating themes

Now the researcher went through all of the codes he'd made, searched for patterns, and started coming up with themes. Themes are more expansive than codes. Most of the time, the researcher combined many codes into a single theme. At this point, he's concluded that some of his codes are too ambiguous or irrelevant (for example, since they don't show up frequently in the data), so they may be removed. For purposes, the researchers want to generate prospective themes that tell us something useful about the data.

Step 4: Reviewing themes

Now the researcher needed to double-check that the themes were both helpful and accurate representations of the data. The researcher goes back to the data set and compares the themes to it. Is there anything missing? Is there evidence of these themes in the data? What can the researcher do to improve the performance of his themes? When the researcher ran into issues with his themes, he divided them apart, merged them, abandoned them, or made new ones, depending on what was needed to make them more helpful and accurate.

Step 5: Defining and naming themes

It was time to identify and characterize each of the topics now that you had a final list. To establish themes, the researcher had to spell out exactly what he meant by each one and how it aids us in comprehending our data. As part of the theme naming process, each theme was given a concise and easy-to-understand name.

Step 6: Writing up

Finally, the researcher writes a report on the data analysis. A thematic analysis, like other academic works, requires an introduction to describe the study topic, goals, and approach. Where the researcher used colorful and persuasive examples to translate his analysis, research questions, and literature into an instructive post.

Results

Results are Good Respectively on the Online Exam

The online exam is a type of exam that is taken and evaluated online. University authorities go through the decision of the exam online. However, it was not like an online exam, arguably.

> *The examination was conventional. The only difference was it was conducted under online surveillance and submitted with the help of the internet (KM2).*
>
> *The student took part in the examination from their home. Students wrote better than the physical exam and got better marks. It gave us the opportunity to ask about its effectiveness (KM1).*

The student wrote better, which expressed the difficulties of taking the exam online properly. The student wrote on extra time and took advantage of the apathy of the teacher.

> *There is a scope of dexterity in that type of online exam. If we do not give importance to this matter, meritorious and hard-working students will be demotivated (KM2).*

The number of total questions and answering time of the final examination was minimized by 50%. This decision was not only for online examination but also for physical examination for the courses that were performed online. Most of the departments shortened their syllabus also. However, some departments finished all the chapters of their syllabus and kept the total syllabus for the final examination.

Multitasking Skill

Students were multitasking during online classes. The multitasking student did not give proper attention in class. I found similar information from the interviewee is the following:

A group of participants said,

> *It was quite impossible to maintain attention fully in class. We switched off our cameras, and many times we were surfing social media like Facebook, Messenger, and Instagram. Sometimes we chatted with friends and attended class simultaneously (FB1).*

A key informant also mentioned that

> *I had realized that students in online classes were attending and doing some other things simultaneously (KM2).*

Another key informant said, Thai,

> *Sometimes students switched off their microphones and joined with another work. It was so impossible to keep students under proper surveillance. I found them attending class; their ID name was displayed to me. Nevertheless, actually, they were doing other deeds that were out of my knowledge. This would not be possible in a physical class (KF4).*

Sometimes online class gives a scope to take class less seriously from the side of faculty members.

> *Some faculty members took negative advantage of online classes. They found the opportunity to work for others as a researcher and consultant, as they could take classes online (KM1).*

Students had to help families working during the COVID situation. Sometimes students were obliged to work as key persons of the family. It was taken positively by teachers also as they realized the situation. Sometimes it was treated negatively by faculty members. One interviewee shared her experience that her friends took care of her children, and after seeing it, the faculty scolded her and advised her to keep her child away from her at the time of class (FF3).

Online Skill Improvement

All students and faculty got institutional email, which is a great achievement during COVID-19. Previously, faculties were found with institutional email addresses, and students did not. However, famous foreign universities and recognized private universities in Bangladesh practiced this skill a few years ago. Public universities were lagging behind them. Most of the students got access to many educational websites by using their educational mail addresses. Some faculty urged to update their designation and work on websites, which can be helpful to the students. As a faculty member said, "University authority updated themselves, and we found all academic notices and letters in my mail along with an offline envelope" (KF3). Academic research of DU was not published on university websites. Online skills and information helped to earn skills. There is a saying that

> DU does not emphasize its attention to research, which is not true. One of my students is currently working on his PhD. He has had a good result in Turkey. Though no records were found about this activity on the websites of DU. We have to publish all the dissertations and articles on the website, and then it will help to improve the university's ranking. (KF6)

Possibility of Blended Learning

In most cases, online classes faced challenges and found a few good things on DU. Some interviewees said, "It was good, though, as we did not do anything during the COVID situation" (FM3). Sometimes it taught us online learning activity. We could perform classes online, which was totally a new skill we achieved in online classes. As a participant expressed,

> I taught my cousin how to take part in an online class from my home in Dhaka to Dinajpur via online. Many senior faculty members, as well as young faculty members who were less skilled on the digital platform, somehow learnt to conduct a class online and experienced it, which is one of the positive sides (FM2).

One participant was informed about the usability of their device in teaching-learning, which opened a new world. She said that,

> Previously we used it only for entertainment and connectivity. During this COVID period, we learnt that mobile phones and laptops could be used by us as learning tools (FF3).

Online class helps to disclose our problems and find a way to improve our online teaching-learning process. DU authorities have to conduct research on it and give proper importance to it. However, DU has the decision that 60% of a course should be taken physically, and the rest of 40% would take place online. It will depend on the course teacher.

> The teacher and students both want to join the class physically. I think online classes can be a part of policy. Policymakers can arrange the policy giving priority to both online and offline classes, and it should be implemented (KM2).

University authorities tried to disseminate the blended learning process. Many private universities have a vast

process of blended learning. There is an opportunity to attend physical classes by some students virtually, which expresses their potential and skill in online teaching and learning.

Discussion

Combine Opinion with Online Class

It is critical to receive any approach favorably when implementing new technologies in education. Students were not familiar with blended learning, but the phrase is well-known in the education industry, even though many higher education students did not participate in blended learning classes. In the case of a prolonged academic shutdown due to an emergency, online learning can help students create a routine, which can have psychological benefits as well as avoid learning loss from interrupted instruction (Schwartz et al., 2020). The university authorities considered the circumstances and decided against offering online classes.

However, a high number of the universities have experienced COVID-19. DU did not wish to launch an online course. The assertion was likewise accepted by the interviewees (IM1, FF3). After a few days, when the COVID impact was shown and universities continued to close, the majority of public universities switched to online academic activities (Nahreen et al. 2020; Mollah & Parvin, 2020). Both the professors and the students had to change their preconceived notions after taking an online course. Since they believed that e-learning was both convenient and advantageous for students, they quickly embraced it as a way to increase retention rates (Mollah & Parvin, 2020). Internet-based remote learning methods were thought to be more similar to in-person classroom instruction in that they may be synchronous; nonetheless, participants pointed out that other elements are needed for online tactics to be effective. To provide an efficient online education over time, an institution needs a suitable learning management system (LMS), excellent online course materials, policies governing students' access to devices and the Internet, content that is tailored to students' learning needs, and support and training for teachers (Schwartz et al., 2020).

Technological Improvement and Motivation of faculty And students are Needed

The other advantage is that the student will be able to access all course materials whenever it is most convenient for him or her. One of the most significant issues is that there are no defined times for classes and no specific physical location. This implies that if the student lacks self-discipline and the ability to manage time effectively, he or she may be unable to deal with the assignment. Students' academic progress can be improved by the customized learning that online and blended learning courses can give (Pane *et al*., 2017; Schwartz *et al.,* 2020). One of the least recognized aspects of online education is the importance of motivation (Adnan & Anwar, 2020). Although no single distance learning method is likely to work for all students, in all institutions, or in all situations. Proper readiness to offer several instructional technologies online in a variety of situations. It can effectively bridge the periods of school closure in any tough situation and provide greater support to students (Schwartz et al., 2020).

I found the least technological development of faculty members reviewing most of the information (FB1, FM2,

FF3, KF3, KF4). However, students had learnt to join and perform online classes as the students went through that process.

In order to provide online learning in the event of a future emergency, schools should first focus on developing the capacity to give blended or online learning during normal times and then address how to overcome the special problems that emergencies are likely to bring (e.g., electricity failure, down server, staff absenteeism). (Schwartz et al., 2020) Educational institutions must modernize their curricula and provide information that is acceptable for online courses (Adnan & Anwar, 2020). Students must not only be able to cope with the fast-paced online sessions, but they must also have the computer and technology abilities to learn from online lectures to ensure an efficient and productive online program. (Adnan & Anwar, 2020).

Useful for Higher Education in Developed Countries has to be Practiced Regularly

Online learning or distance education was less successful than traditional classroom learning to some extent. As a consequence, it may be argued that online learning is ineffective in developing nations such as Bangladesh. The majority of the students are unable to use the internet, facing technical and financial constraints in developing or underdeveloped countries. (Adnan & Anwar, 2020)

I found a lot of responses from students and teachers that they had received the online class with pleasure. After continuing the program, they realized their efficiency was lacking. Without those obstacles, a determination is produced in their mind, and as they are informed, they have learnt after engaging with online platforms (KF3, FF3, FM2). For that reason, some students and teachers expressed their opinion on the proper use of wide resources online and opined for continuing research on it (IM1, KM2).It is also a great issue that, if the government does not intervene with strengthened short- and long-term public policies on online classes, long-term benefits will be severely limited (KM1, FB2, Mahtab, 2020; Mollah & Parvin, 2020). Furthermore, the COVID-19 problem demonstrates that we must plan for future situations of closures due to health crises. (Schwartz et al., 2020)

Recommendation

Based on the discussion and analysis of the results, the following suggestions are made for the future development of online education and the advancement of our higher education system:

- Network Strength and Stability: A solid and dependable network is essential for online education and learning. Investing in innovative technologies and infrastructure development is critical. To successfully handle network concerns, university officials and the appropriate government should work together.
- Economic Support: In needy instructors and students should receive devices or financial aid from the authorities.
- Development of Learning Management Systems: Learning management systems (LMS), library access, and student digital monitoring systems must be improved. Education should be provided through all available mediums to guarantee comprehensive learning experiences.

- Training Facilities: Training facilities for instructors and students must be arranged systematically. Priority should be given to continuing education that focusses on developing online skills.

- Class Recording and Access: For students who are unable to attend or have hearing impairments, it is crucial to record online lessons and make them accessible for future use.

- Government Connection: It's critical to keep a special connection with the government. This link should be strengthened by our authorities in order to improve general educational advancement.

- Communication of Online Courses: Every faculty member and student should be aware of the implications of online class scheduling. Making good use of online resources may significantly improve the institution's standing and awareness throughout the world.

- Emergency Education Mobilization: During emergencies, it is essential to mobilize educational resources properly. Maintaining the academic semester and raising university rankings both depend on continuing online education. It is advantageous to have a current web portfolio that highlights our institution's contributions to the global community. All scholarly publications, journals, and instructional materials must to be maintained up to date and available to other educational facilities.

Further Scope of the Study

Online teaching and learning and its implementation demand a lot of attention from us. Our country, Bangladesh, tends to improve the quality of education shortly. For enhancement of our higher level of education, we have to practice a blended learning approach by now. Exploring problems and resolving them significantly will improve the future education system. We have a large number of youth scholars with potential who want to take part in nation-building through their service. Further research on broader aspects beyond the University of Dhaka creates importance for developing a higher level of education. To acquire a standard position at the graduation level, there is a lot of scope for further study in implementation, dissemination, skill management, resource management, and so on.

Conclusion

To summarize, the design goal of online education platforms aims to replace traditional single-education modes with more diverse teaching approaches. Compared to traditional teaching, online teaching as a new teaching mode has the potential to significantly advance education reform and improve the overall quality of postgraduate students. With the advancement of Internet new media technologies and the influence of COVID-19, online platform education is becoming increasingly significant for postgraduates. And it will become an essential teaching approach for their education, which must be aggressively pushed and popularized. However, online teaching is not a replacement for traditional education, but rather a reflection of the variety of teaching methods. In the future, online academic lectures will become the primary tool for students to obtain academic exchanges, especially for postgraduates. At present, constant reform and development are needed for online seminars to achieve better academic exchange; therefore, it is necessary to improve the publicity of lectures, especially high-quality academic exchange courses, to avoid low participation among postgraduates; universities need to organize the project and curriculum construction of online academic talks; it is encouraged to establish an online platform

to collect open academic presentations related.

According to the results, e-learning in Bangladesh appears to have a bright future. It has the potential to close the digital divide, increase access to higher education, improve academic standards, promote inclusivity, develop technology, provide flexible and individualized learning, provide resources for global education, and empower women. The actual implementation of e-learning in Bangladesh will require a concerted effort by the government, commercial schools, and other partners to ensure that it is accessible, inclusive, and of the highest caliber. However, the evaluation did identify several potential solutions, such as developing a comprehensive strategy for digital infrastructure, increasing financing for digital literacy training, and establishing partnerships between international, corporate, and governmental organizations to promote e-learning.

Declarations

Availability of data and materials: The authors declared that the collected data are original and all the data were collected by the authors. Data is included in the article/supp. Material referenced in the article.

Consent to participate: Informed consent was obtained from all individual participants included in this study.

Ethics statement: The research project does not include any animal experiments or human drug experiments. It is a public welfare project, and the informed consent is obtained before the research.

Declaration of interest statement: The authors declared that there is no competing interest associated with this Publication.

Authors contribution: All authors contributed to the study's conception and design. Material preparation, data collection, and analysis were performed by [Mahmud Hasan], [Muhammad Ferdaus], and [Abu Raihan]. The first draft of the manuscript, conception and design, analysis and interpretation of data, and drafting or revising the article were written by [Mahmud Hasan], and all authors commented on previous versions of the manuscript. All authors read and approved the final manuscript.

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Author Information

Mahmud Hasan

https://orcid.org/0009-0005-3534-7535

Institute of Education & Research (IER)

Jagannath University

Dhaka-1100

Bangladesh

Contact e-mail: *derakpin@gmail.com*

Muhammad Ferdaus

https://orcid.org/0009-0005-9699-5317

University of Dhaka

Bangladesh

Abu Raihan

https://orcid.org/0009-0009-3402-3378

Daffodil International University

Bangladesh