Responding to the Pandemic in Tertiary Education: A Unique Case of Crisis Management

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Abstract: The closure of educational institutes worldwide as a result of COVID-19 has led to an education crisis. The situation exacerbated the learning loss in the developing countries as their educational institutes could not shift to e-learning quickly like their counterparts in the developed nations due to different limitations. As the pandemic has created a unique situation, these institutes didn't get the opportunity to prepare or plan to manage the disaster. Jahangirnagar University (JU), one of the oldest public and the only fully residential university in Bangladesh, faced different challenges during this pandemic. This paper aims to narrate the challenges the university's students, teachers, and authority faced and its initiatives to manage this crisis. The most significant challenge was transitioning to online classrooms, which was a new experience for both teachers and students, resulting in various constraints. This case can be helpful for the other public universities of developing countries to manage the COVID-19 education crisis or other disasters in the future.

Keywords: Crisis Management, Education during COVID-19, Online Learning, Jahangirnagar University, Online Student Assessment

Introduction

The unprecedented COVID-19 pandemic has affected almost all the sectors across the world. Considering the alarming level of spread and severity, WHO declared COVID-19 as a pandemic on 11th March, 2020 (WHO, 2020). To prevent the spread, countries all over the globe have taken different kinds of initiatives like lockdown, quarantine, shut down, general leave, etc. Sectors like education that require face-to-face interaction are severely affected due to these measures. About 1.2 billion students of different countries have faced negative consequences by the closure of educational institutions (UNESCO,2020). The government of Bangladesh first closed the educational institutes from 17th March, 2020, and has extended it in several phases to 30th June, 2021. The government also canceled PEC, JSC, HSC, and all equivalent public exams of 2020 ("Closure of Schools Extended to 30th June," 2021). Bangladesh is among the countries with the most extended full closure of educational institutes (UNICEF,2021). To reduce the learning loss, educational institutions across the globe started e-learning (Paudel, 2020). Higher educational institutes of almost all the countries also started to conduct academic activities virtually (Gewin, 2020). On 30th April 2020, University Grants Commission (UGC) asked all the universities of Bangladesh to continue educational activities using digital platforms. However, 63 private universities and only very few public universities among 151 universities started online classes before this decision (Alamgir, 2020). To shift the activities from in-person to digital, both the public and the private universities faced different challenges. Universities take various strategies to cope up with these challenges (Huque et al.,2021b). Besides the academic activities, these universities and their stakeholders face different difficulties during this pandemic situation. While some problems are common, others are unique to the individual university.

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This article portrays a selected case, Jahangirnagar University, the solely residential public university in Bangladesh, which faced different challenges during the pandemic and faced the situation with unique solutions.

COVID-19 Scenario in Bangladesh: A Special Context of Public University

Jahangirnagar University was established in 1970 in Savar, 32 kilometres away from the capital city Dhaka, and operated under the Jahangirnagar University Act of 1973. It is the only fully residential university in Bangladesh that means every student has accommodation in a residential hall of the university. At present, this public university has 36 departments under six faculties, four institutes. More than five hundred teachers and fifteen thousand students are the main stakeholders of the university. Sixteen student dormitories, including eight for females, accommodate all the students (Jahangirnagar University, n.d.).

The university is operated according to 'The Jahangirnagar University Act,1973'. According to the act, the President of the People's Republic of Bangladesh is the Chancellor of the University. The Vice-Chancellor is appointed by the Chancellor for four years from a panel of three persons nominated by the 'Senate' and is eligible for re-appointment for a further period of four years. According to the act, the 'Syndicate', the Chief Executive Body of the University, has the general management and superintendence over the university's affairs, concerns, and properties. Senate of the university amend and ratify the Statutes on the proposals of the syndicate. However, the principal academic body of the university is the Academic Council is responsible for the maintenance of standards of instruction, education, and examinations have the right to advise the syndicate on all academic matters (The Jahangirnagar University Act, 1973).

It is a point to be mentioned here that almost all the educational institutes of the world are affected by the COVID-19, and Jahangirnagar University is not an exception. The first covid case was diagnosed on 8th March 2020 in Bangladesh. 10,00,543 confirmed cases and 16,004 deaths were reported to WHO on 9th July 2021 (WHO, 2021). In response to that the government announced the closure of all educational institutes from 17th March 2020, and from 26th March 2020, it implemented a lockdown in the name of general leave. The government has extended the closure in different phases. According to the government directives, Jahangirnagar University suspended its academic activities from 17th March 2020 and vacated all the student dormitories. In response to the general leave announced by the government, the university paused the administrative activities from 26th March 2020.

This paper shares the initiatives taken by Jahangirnagar University during the COVID-19 pandemic situation. The university requires to simultaneously consider the learning loss, challenges of various stakeholders, campus safety against COVID-19, and government and UGC directives.

Methodology

A case study is appropriate to answer how and why questions (Yin, 2003). It helps a researcher to study complex phenomena, too (Baxter & Jack, 2015). The study emphasizes a unique case, Jahangirnagar University, the only residential public university

in Bangladesh, to handle the pandemic crisis and mitigating challenges. Yin (2003) classified case studies into three types: exploratory, descriptive, and explanatory. The exploratory research deals with uncovering underlying issues among the sample group that might lead to descriptive and finally to explanatory research or causal research. The study used the exploratory research approach confining both qualitative and quantitative tools to collect information from the sample frame. In-depth interview method was used to uncover the underlying crisis and challenges of the teachers from Jahangirnagar University. A group of 10 teachers from different departments was chosen in this case.

Moreover, a survey was conducted among 117 students from Jahangirnagar University from 8th March 2020 to 15th July 2021 to identify the pandemic crisis and challenges with a qualitative mindset. However, the mode of primary data collection method from the students was Google Form which was disseminated among the students. Furthermore, the study independently collected the published internal circulars from the authority of the Jahangirnagar University, which was somewhat an effective way to compare Jahangirnagar University's situation with other public universities running under the 73 Act of University Ordinance in Bangladesh. Finally, the newspaper articles and circulars from the government of Bangladesh were also being collected to find out the policy-related issues in respect to education at the tertiary level during the pandemic crisis.

Review of Literature on Responses of Universities to COVID-19

COVID-19 has affected all spheres of life across the world, including education. Governments closed schools, colleges, universities, and other educational institutes in almost all countries to curb the rapid spread of the disease. This closure disrupted the academic calendar of these institutes, which made the students and their parents anxious (Izumi et al., 2020). Educational institutions of these countries accepted different mechanisms to reduce learning loss. Various stakeholders like the government, NGOs, and other concerns work for student well-being and the continuation of learning activities. Socio-cultural status and technological advancement influence the application and success of these initiatives (Fitzpatrick et al.,2020). Izumi et al. (2020) found that changes in teaching methods and work from home also create challenges for the students, teachers, and universities. They opined that inadequate preparation for this type of crisis causes the situation worse. These findings are commonly discovered from the researches conducted on different universities around the world.

Banki (2021) realized the necessity of appropriate measures to face two main challenges of tertiary education during the pandemic: deprioritization of study due to the COVID-19 context and disengagement of the students in the online classes. She suggested adopting a pedagogy with care, flexibility in teaching, engaging lectures, and the correct use of COVID-19 as context. Along with other initiatives, higher educational institutes offer different supports to the students to reduce the digital divide. The supports include access to digital resources, skill development courses, flexibility in teaching and assessment, etc., which reduced the frustration among the underprivileged students (Webb et al., 2021).

Perceived challenges and awareness of COVID-19 of the learners influence the perceived usefulness and ease of use of e-learning, which again affects the intention to participate in e-learning among the Finnish students during the ongoing pandemic. However, female

students perceive more challenges than their counterparts which negatively influences the discretion to accept e-learning. Though several studies show the lack of preparedness of the institutions as a cause of dissatisfaction among the learners and the academics, this study has shown no effect of this factor on the perceived usefulness, ease of using e-learning, and the intention to participate in e-learning (Nikou & Maslov, 2021).

Chen et al. (2021) surveyed the College of Business of California State University Long Beach students to learn about online classes' experience, satisfaction level, and challenges. The institution announced a mandatory shift of teaching modality on 12th March 2020, in response to the COVID_19. The researchers found content coverage and interaction of learning technologies are highly correlated with the satisfaction level of the students. Face-to-face classes have the highest level of satisfaction, followed by hybrid and online classes.

The success of online classes in Africa varies depending on socioeconomic status. An African university, the National University of Lesotho, continued its academic activities through its own Learning Management System (LMS), making the online transition smoother and quicker. The University Senate also took timely transition decisions, which prevents academic loss. With negotiation with proper authorities, the university made zero-rate student access to learning platforms (Mbambo-Thata, 2020). Lack of preparation and training, financial challenge, expensive internet connection, lack of device and constant internet accessibility made it challenging to adopt online learning for the university students of Ghana. These lackings also led digital divide among the learners. Proper initiatives by the universities, government, and donors are recommended to eliminate these barriers (Agormedah et al., 2020). Both the students and the teachers of Nigeria suffer from poor internet access and low interactions to participate in online classes. The main challenge from the teachers is the student assessment and poor concentration of the students in the virtual modality. They faced malpractice in the examinations and found it challenging to get a proper evaluation. Besides, they faced trouble teaching the complex concepts on the digital platforms. Supports to get the students' required devices and internet connections, training to participate in online classes, and ensuring student engagement are recommended for effective university learning (Ebohon et al., 2021). Azubuike et al. (2021) also found a digital divide among the Nigerian learners between public and private institutions and financially able and challenged families. Literature is showing the lack of student engagement as a prominent drawback of online learning. El-Sayad et al.(2021) found that student self-efficacy and satisfaction levels significantly positively influence engagement. The study was conducted on Egypt's university students and categorized engagement into behavioural, emotional, and cognitive types. Cognitive engagement is not influenced by self-efficacy and satisfaction level. Besides the self-efficacy, Chinese students' satisfaction also depends on the perceived ease of use and usefulness of digital platforms (Jiang et al., 2021).

In Asian countries, as online classes are novel experiences, the transition causes the universities many challenges. Sia and Abbas Adamu (2020) examined the challenges and impacts of COVID-19 on higher education in Malaysia. To maintain social distance, the universities transformed to online instruction in which teachers and students had to be adaptive. The main barrier to e-learning is the poor internet connections in some areas of

the country. The government provided financial assistance for university students and postponed the tuition fees for six months. Changed teaching and assessment mode, lack of proper training and internet connections, and high screen exposure made the teachers anxious and stressed. On the other hand, poor internet connection, less interaction with teachers and fellow mates, and huge assignment burden are the significant challenges from student part. Though commence of e-learning faced the same challenges in the universities of Singapore, the academicians are optimistic about grasping opportunities like learners' independence, improved teaching, and enhanced interaction during synchronous teaching sessions. The preference for on-site learning and the emerged opportunities have created a high prospect for blended learning (Müller et al., 2021). After the first confirmed COVID case, all universities of Brunei Darussalam were asked to prepare the Business Continuation Plan (BCP) to minimize the loss in the COVID outbreak. In anticipation of the massive spread of the disease, these universities quickly made provision to continue teaching, learning, and assessing using different online platforms. Their time in this planning is very short, ranging from three days to three weeks after the first confirmed case. With some previous online teaching experience, the universities prepare guidelines for delivering the lectures fully online. Ministry of education formed a task force that took different initiatives to make the internet accessible to the stakeholders and ensure the teaching-learning process in this small Southeast Asian country. The institutions prepared the students for online assessment by arranging some trials and feedback after the online examination. Quick decision, prior online teaching experience, and supportive initiatives of the university authority, ministry of education, alumni, telecommunication industry made the continuation of academic activities without disruption (Shahrill et al., 2021). In Jordan, the satisfaction level among university students regarding remote learning is low. However, 20 private universities have more satisfaction levels than ten public and two regional universities. Internet self-efficacy, self-regulated learning, interaction with other learners, instructors, and content, work as predictors of satisfaction. Though there is no gender difference among the students of these universities, higher-level students have more happiness than lower-level students (Hamdan et al., 2021). Ministry of Education (MOE) of Kuwait launched its platform, "the electronic gate," to commence online education during the pandemic and asked the teachers and the students to activate their accounts. The main two reasons for education loss during this time were lack of technological infrastructure and procrastination of proper decisions (Alhouti, 2020). In Oman, presentation and multiple questions were preferred to assess the students and reduce academic dishonesty (Guangul et al., 2020).

Countries of South Asia shares almost similar socio-cultural environment and the universities also have some common experiences of COVID-19 pandemic. In India, around 993 universities faced different difficulties in transforming the teaching mode. The main challenges on the part of the teachers were disruption during work from home, lack of technological know-how and insufficient institutional supports, negative attitude, and lack of motivation (Joshi et al., 2020). Rizvi and Nabi (2021) identified poor network and internet connectivity, inappropriate home environment, lack of personal interaction, and excessive screen time causes fatigue among students and teachers. The university's success will depend on overcoming the challenges and adapting to the change quickly, maintaining the education quality. On the other hand, the government and the other

stakeholders should take the necessary steps to ensure the resources and support to restrict the digital, gender, and class divide. Business schools of the country also have adopted e-learning and face financial challenges during the pandemic. These schools may take the necessary strategies to reposition themselves to become successful and grasp the emerging opportunities (Rana et al., 2020). Another South Asian country Nepal also has faced challenges to change the learning mode due to lack of preparedness, resources, positive perception of students and teachers. Technological support, perception of the learners and the teachers, and infrastructure availability are the determinants of the effectiveness of online learning of the universities. The absence of personal interaction made the teachers unable to read the students' mental state and understanding level, which is vital in the teaching-learning process (Gautam & Gautam, 2021). Teachers of Pakistani universities reported teaching stress due to lack of preparedness, technical skill, work-life balance, student engagement while conducting online classes. To meet the challenges, the teachers went through pedagogical and technological adaptation. However, they also recognized a need for training to boost student participation in the classroom. (Abid et al., 2021).

Like all the developing countries, universities of Bangladesh also have faced challenges to continue the learning activities. They have to shift to online classes without preparedness, resources, and skill. All the students do not have the financial ability to afford the proper device, internet connection, home environment, etc., to participate in online classes. Besides these, less engagement, inadequate interaction, and difficulty in student assessment are significant challenges like most other countries (Al-Amin et al., 2021; Tanni et al., 2021). Fixed class schedules, short duration classes, more effective lectures, institutional supports, uploading the recorded lectures, better internet connection, regular classes, proper online evaluation are recommended for the continuation of online classes (Shuchi et al., 2021). Nur Ullah et al. (2021) mentioned that the government, University Grant Commission (UGC), and the university authorities provided different supports, especially to financially challenged students. The initiatives include loans, financial support, reduced and flexible tuition fees, special data packages, training, unique online teaching and assessment software, etc. Along with other challenges, Khan et al.(2021) pointed out students' mental health problems due to online classes during the pandemic, which should be considered. Universities face a significant challenge transitioning to online classes from traditional in-person classes, affecting teachers, students, and families. Besides, financial challenge is another problem, especially for privately-owned institutions (Huque et al., 2021a). Challenges and coping strategies are somewhat different between the public and private universities, mainly due to the difference in ownership, mode of operations, student segment (Huque et al.,2021b).

Responses of Jahangirnagar University to COVID-19

As the COVID-19 pandemic is a novel experience for all the educational institutes, Jahangirnagar university had no scope for making a plan before the crisis. It has to take steps considering the emerging situation, students' uncertainty, challenges, etc.

Closure of University

Complying with the government direction, the university stopped all its academic activities from 17th March 2020 and vacated all its residential halls. Suddenly, the

students had to leave the halls, and all the ongoing exams also were stopped for an uncertain period. Later, the university has extended the closure in different phases according to the government decision.

Financial Support to the Under Privileged Students

The university faced different challenges from the students and the teachers. As a public university, it has many students from middle-class and marginal families. Many students bear their own cost of living and education and contribute their income to maintain the family. For this, they mainly depend on providing tuition. Due to the pandemic, these students lose their income which has created financial uncertainty.

Moreover, in some cases, other family members also lost their source of income during the pandemic. Some departments and institutions provided some financial supports to their students. Jahangirnagar University authority also made a list of these financially challenged students and provided Tk.3,000 to each of such 3000 students through bKash, a mobile financial service.

Physical and Health Support

Closure of the University for an uncertain period, loss of the academic year, uncertainty about the job market, trauma about COVID-19, infection, and death of near ones hurt the students' mental health. Considering the situation, the Student Welfare and Counselling Centre of JU organized several webinars to reduce the students' mental health problems. Moreover, to monitor and formulate policies regarding COVID-19 on the campus, a high-powered COVID-19 control committee was formed. Psychologists also provide regular counselling to the different stakeholders of the university.

The shift in Teaching Modality

Many private universities also started online classes, but public universities were waiting for the directions of the UGC (University Grant Commission). Few institutes and departments of JU informally started conducting online classes after some days of closure at their initiatives. The University authority had suspended all online classes to ensure parity among all departments and institutes. Moreover, it began planning to move to a new form of the learning platform, when it would receive directives from the apex body,

University Grants Commission (UGC) established the Bangladesh Research and Education Network (BdREN) as part of the HEQEP funded by the Bangladesh government and the World Bank. The objective of BdREN is to ensure connectivity among higher education and research institutions of the country (BdREN, n.d.).

By July 2020, teachers from over 140 institutions had begun to use expensive BdREN Zoom licensed accounts, which were overgrowing. BdREN asked the teachers to register a front-end web application called "BdREN vSession" to improve costly Zoom Licensing efficiency before 04th August, 2020 and ceased the direct access to Zoom Application for scheduling meetings with Licensed Account. "BdREN vSession" provided the user with almost the same features as the licensed version.

On 2nd July 2020, the University authority circulated an email requesting the teachers to prepare for online classes. In another mail of 8th July 2020, it distributed a notice to start online classes from 12th July 2020. The authority formed a six-member technical

committee on 07th July 2020, named "Online Class Management Technical Committee" to give necessary support and guideline for this new mode of teaching.

Challenges, Adaptation, and Supports regarding the Online Classes

The university's stakeholders faced various issues due to abrupt changes in teaching and learning methods. Implementing this unanticipated shift resulted in many problems that students, teachers, and administrators must deal with using various strategies.

Commencement of online classes made the financially challenged students more helpless as most of them do not have the proper device and internet connection to join the class. As they have to leave the halls, most of them reside at their home. Some students live in remote areas where internet connection was too poor to continue the entire class. Some students also suffer from a lack of proper environment to join the class. As the modality is new for the teachers, the students did not find the classes effective in some cases. The university authority made the class attendance flexible considering the problems. UGC also had a guideline not to make attendance mandatory. But this consideration made the students more reluctant to attend the classes initially. Lack of proper device, negative attitude, flexible attendance, poor network, improper home environment, absence of assessment mainly initially restricts some students from joining the online classes. These problems also negatively affected the students' mental health, and there was a chance to face the digital divide among the students. Besides, students also faced physical problems due to high screen exposure like sight problems, headaches, back pain, etc.

Again the department and institutes came forward to support the students. Department and institutes individually assist with their students' financial help, loan, data package support, etc. UGC announced support in the form of Tk. Eight thousand interest-free loans to the students for purchasing a smartphone. Out of 750 applications, Jahangirnagar University granted loans to 253 students in February 2021, who must repay the loans before receiving their certificates from the university. The students are required to repay the loan either in one lump sum or in four equal instalments. Agrani Bank also offered Tk.60,000 loan with low interest to the students to purchase a laptop.

The university authority also considered the financial challenge of the teachers during this pandemic situation. The university syndicate decided to grant interest-free loans of Tk.50,000 to 100 teachers repayable at 20 equal instalments. The loan was sanctioned to purchase a laptop to conduct online classes.

The guidelines formulated by the technical committee set the time, number, and duration of the classes, which was positive for the students' health.

Findings from Student Survey regarding online classes

An online survey was conducted to reveal the students' experience and significant problems in October 2020. Survey forms were disseminated among JU students in a google form, and 117 responses were received. Most students were found to (49%) both Wi-Fi and mobile data to attend the classes .

Table 1 reveals that, although most students were used to communicate using Grameen Phone (GP), they preferred to use Robi to attend the online classes.

Table 1: User number and percentage of different mobile operator

Service Provider	For Communication		For Attending Class	
	Frequency	*Percentage*	*Frequency*	*Percentage*
Banglalink	22	19%	11	9%
Grameen Phone	44	38%	31	27%
Robi	38	32%	35	30%
Teletalk	13	11%	7	6%
Not applicable	0	0%	33	28%
Grand Total	*117*	*100.00%*	*117*	*100%*

Most of the respondents (76%) mentioned poor internet connection as a problem to attend online classes, followed by exam anxiety (62%) and mental health hazard (62%), and physical health problems (54%). Responses regarding other issues are shown in Table 2. Many students (44%) did not have the proper environment at their home to attend the class without disturbance or attend the viva voce or presentation. Until the survey, there was no decision about the student evaluation for which students feel uncertainty regarding academic loss reflected by 33% of responses. They were also concerned about the fairness of the exam is conducted online (32%). Anxiety regarding attending online assessments and submitting scripts on time due to inadequate internet connections and mobile networks also found a significant problem.

Table 2: Problems faced by JU students to attend the online classes

Problems	Frequency	Percentage
Poor internet connection	89	76%
Mental health hazard	73	62%
Exam anxiety	73	62%
Physical health	63	54%
Cost of Data	59	50%
Lack of learning supportive environment	52	44%
Lack of reading materials	40	34%
Non interactive class	39	33%
Lack of examinations	39	33%
Fairness in exam	37	32%
Other	17	15%
Lack of device	10	9%

Source: Student Survey

Students were also asked to mention the initiative, which would be helpful to participate in the online classes and continue the learning process during the pandemic. The majority of students (81%) recommended uploading recorded lectures after class. To upload the

reading materials was also a significant suggestion. As they found difficulty in having the reading material during this pandemic, this initiative would be helpful, especially for the students of remote areas. The response regarding the other suggestions can be found in Table 3.

Table 3: Suggestions to overcome the problems regarding online classes

Overcoming Strategy	Frequency	Percentage
Uploading lecture videos after class	95	81%
Uploading reading materials in advance	81	69%
Providing financial support for data	47	40%
Reduce the duration of the class	45	38%
Providing device support/financial support for device	40	34%
Increase the interval between classes	24	20%
Others	19	16%
Stop the online classes	10	9%
Total Respondent	117	100.00%

Source: Student Survey

Challenges faced by the teachers

To know the challenges from the teachers' side in-depth interview (IDI) was taken with ten teachers of different disciplines. Teachers also mentioned poor internet connection as the main problem of the new mode of classes. Lack of interaction and student engagement also demotivated them. Moreover, teachers from science faculty found problems teaching complex issues and lab classes using the digital platform. Some were frustrated about the poor student attendance in the class. High screen exposure and prolonged sitting posture created different types of problems like headache, migraine, neck pain, back pain, etc. They also have to make an effort to redesign the lectures and assessment tools. Some teachers, especially female teachers, face trouble maintaining their work-life balance due to unscheduled meetings, family disruptions, and the absence of household helping hands. Along with these, the overall COVID-19 context created anxiety and frustration among them.

Special Arrangement for Final year Students' Assessment

All the stakeholders of the university were worried about the academic loss. There was no decision from UGC regarding student assessment. Classes of next semester or year of some disciplines have stated keeping pending the previous final exam. Students, especially the last year students, suffered from anxiety as they have to face session jams. This anxiety magnified as there was a circular of Bangladesh Public Service Commission for Bangladesh Civil Service jobs. As the students have to appear at the final exam to qualify for applying, they faced uncertainty to grasp the opportunity. To resolve the situation, the 'Online Class Management Technical Committee' worked and recommended an online assessment mechanism for the students of that batch (Academic

session: 2015-16 and 45th batch of JU) only. The mechanism is fine tuned with the opinions of the deans' committee. Later, the academic council discussed the recommendations and approved in the university syndicate on 8th December 2020. The departments and institutes were asked to complete the final assessment of this session consisting of class evaluation, viva voce, and assignment. Accordingly, the final exams of the last year of undergraduate programs were held. The JU authority also gave an exemption for the examination fees and introduced a procedure to submit the examination form online considering the convenience of the students. That was a milestone for the public universities of the country. This initiative reduced the grievance and uncertainty of those students and their parents and made them eligible to apply for their desired job. The Examination office also published the result of these examinations within a short period.

Skill Support to the Teachers

It was a great challenge for the teachers to conduct classes in a new mode without preparation and training. The senior faculty members acutely faced the problem. The technical committee provided skill supports and guidelines to the teachers to conduct classes using digital platforms. Two faculty members were assigned in each discipline to help the other teachers with the necessary skills.

Online Student Assessment

JU authority circulated a notice to the students to take institutional email ID to make the online learning and assessment more effective. In another mail, the authority forbade the teachers to take any form of student evaluation until a policy was formulated for the online evaluation. To develop the procedure in this regard, the university formed a committee named 'Committee for Examination Policy during the disaster.' As there are different approaches for student assessment in various departments and institutes, it was challenging to develop a separate procedure for them. In all departments, the student evaluation is divided into two parts: class evaluation and final exam, but the weight varies among these two parts. The committee created a uniform method for all the departments and institutes during this new normal situation. The method was discussed in deans' committee and in academic council and got their consent with some modifications. The syndicate, with some modifications, approved the suggestions of the committee titled "Examinations Policy During Disaster-2021" on 2nd June 2021. According to the recommendations, all the student assessments will be held online during the pandemic. The total marks allocated in the final exam is 50 and should be assessed into three groups: written test (10), assignment (10), and viva voce (30). These 50 marks then will be converted into the assigned final marks allocated for the specific department or institute. This converted test score and the tutorial/in-class evaluation will be utilized to establish a student's final grade in a given course.

The policy considered the different challenges students might face to appear at the examination and submit the script. Teachers are requested to consider the unavoidable situations that the students may face. After approval, individual departments have started to make preparations to conduct the pending final examinations. Students were provided proper guidelines, review classes, Q&A sessions, and mock tests to get the necessary skills required to appear at this new assessment form. Different departments and institutes started to conduct the pending examinations in approved format from 27th June 2021.

Though the teachers have to spend more time and effort in this form of evaluation, this system is approved only for this crisis period where proctoring during examinations is difficult. That is why there would be a chance of improper assessment based only on written tests. The new format is good enough to assess the students as well as to avoid the COVID-19 exposure. Departments were given autonomy to conduct the practical examinations using the online platform. Upon the approval of the vice-chancellor, departments/institutes are granted the latitude to develop a strategy to complete and evaluate thesis work for thesis students. JU authority decided not to take any examination fees considering the financial condition of the students during this crisis. Exam Office has commenced an online marks submission system to process and publish examination results quickly.

Like some other public universities Jahangirnagar University also had to comply with the government and UGC directives regarding the closure and starting online classes and assessment. But the way it conducted the assessment of the final year students' assessment, online assessment of other students by formulating and implementing "Examinations Policy During Disater-2021, maintaining campus Safety and Hygiene, providing mental, financial support to the students are unique for a public university of a developing nation. With proper leadership, support from all levels of administration and cooperation from the teachers and students, these initiatives are being implemented without major grievance and problems.

Conclusion

Though the pandemic has caused lots of suffering globally, it has created some opportunities and learning. JU and all the universities of Bangladesh got the first-time experience of online classes, which may be later used as a blended form. Besides, online classes can be used in any disaster or political uncertainties and thus reduce the chance of academic loss due to the closure of universities. So, training can be arranged for the teachers for a more interactive and engaging class environment, ensuring effective learning for the students. Moreover, students can be benefitted from the lectures of different expert persons, researchers, and academicians from other areas of the country and abroad. To reduce the cost of data, universities and UGC can approach the telecommunication industry.

The crisis management of JU during COVID-19 has some limitations and procrastination. As a public university of a developing country, the University has to consider different hurdles and consequences, government and UGC directives. That is why it is pretty challenging to adapt to any change very quickly. But the authority of JU has managed the crisis considering all the situations carefully and taking the necessary steps to continue its academic activities and reduce the students' uncertainty. Now, the university must prepare for the challenges they will confront when resuming educational activities after a long hiatus. They have to create a proper environment to ensure adequate hygiene, and in some cases, they have to renovate the resources and purchase new machines and equipment. Besides, they have to adjust to the academic calendar and other initiatives to overcome the learning loss. Other public universities of the country and the public universities of other developing countries can also get the idea from this crisis management case and use it to manage any disaster in their future learning process.

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