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Post-Covid Analysis: Covid-19, Online Learning and Mental Health of College Students

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Abstract

The COVID-19 outbreak has made the educational institutions compelled to shift their mode of delivery of materials from offline to online overnight. It has left no choice but to accept by the teachers the greatest digital divide happening in the world, it's increasing impact on the education sector and to change the pedagogical approaches. The greatest victim of the pandemic was not other than the student community. The sudden closure of educational institutions, the continuation of online classes, approaching the teachers in a never-facing form, the lack of digital infrastructure, lack of motivation and above all lack of face-to-face interaction have made the students mentally disturbed. The implementation of lockdown due to COVID-19 in Assam also made the educational institutions closed. The present study is an attempt to make a post-COVID analysis with special reference to online learning and mental health of college students. For this purpose a sample of 150 undergraduate students were selected randomly. By using self-structured questionnaire was prepared and data were collected. In frequency distribution tables and graphical representations were made to analyse the data. The results showed that students used Zoom, WhatsApp, Cisco Webex and some other sources for online learning. Most of the students attended online classes for 1 hour a day, maximum number of students had partially satisfied by the overall learning experiences. Poor network and motivational issues were found mostly among students when they reported about the problems of online learning. Thus, the findings yield sufficient need of collaborative efforts of the teachers, administrators, parents and other members of the society to look at the matter of online education more deeply and to improve the digital infrastructure to make it a total success. Creating innovative online contents, tools, techniques, increase interest and motivation of teachers for online teaching along with getting training and such other courses to improve their new pedagogy will go a long way to motivate students to pursue online learning in coming days.

Keywords 1 COVID-19, 2 online learning, 3 mental health, 4 college students, 5 lockdown.

Introduction

For getting success in academic field, the issue of mental health is one to be taken great care of. Our success is the result of long-term hard work, dedication and good efforts. For this one has to sacrifice his life many a times i.e., sacrifices in terms of money, labour, amusement and so on. If we can not maintain our mental health at par, hindrances come on its way, thus leading to mental disorders, diseases, mental fatigue, depression and what not. The students of today are very focused regarding the achievement of goals and thus need motivation, concentration and attention about activities leading towards the goal achievement. But, failure to maintain a sound mental health, all these aspects of our mental life is impossible to sustain, thus leading towards getting obstacles towards success. According to the 2019 Annual Report of the Centre for Collegiate Mental Health, anxiety remains the most prominent mental health issue among the students going for counseling. According to WHO, India records 2443 disability-adjusted life years (DOLs) per 10000 population, the age-adjusted suicide rate per 100000 population is 21.1 percent (World Health Organization-South-East Asia: India). WHO also estimates that approximately 20 percent of Indian citizens would suffer from some mental disorders in coming years. Currently, 1.38 billion people in India are going to mental health professional for consultation and counseling (Sharma, Akansha, 2020). According to WHO, India faces economic loss due to mental health problems and estimated amount of such loss is US\$ 1.3 trillion from 2012-2030 (www.who.int).

The outbreak of novel Corona virus disease in Wuhan city of China at the end of December 2019 was the most dangerous disaster ever in our history that made no part of the world untouched. It thus took very few times to become a global threat as it was detected in several other countries within a short span of time. It's effect slowly spreaded over the other parts of the world and our state Assam too. The virus has spread to more than 177 countries till March 2019, infected more than 7 million people and more than 33 thousand deaths (Sahu, Pradeep, 2020). According to WHO, a total 42,512, 186 people were affected by this virus worldwide including 1,147,301 deaths recorded on October, 2020. (Rahman, Afzalur, 2021). It has stopped the world all of a sudden resulting devastating economic, political, social, educational and other traumas and lost. To check such devastations arisen out of the virus, the countries worldwide had to impose travel restrictions, social distancing, self-isolation, improving health-care facilities, closure of gym, museums, swimming pools, shopping malls, and movie theatres including educational institutions. India experienced never-before in history a total countrywide lockdown from 24 March, 2020.

Due to the closure of educational institutions, the students for the very first time were remained in their homes without going out anywhere. They had lots of free times which they previously spent in schools or colleges. Parents also had to take burden regarding the closing of schools/colleges of their wards, taking care of the matter of maintaining social distancing, increased internet use by their kids all through the days at home etc. (Singh, S. Roy et. al, 2020). Students had to discontinue their offline classes, attend online classes, and stop their tuitions at the centers, other classes like drawing, games and sports and so on. There was no social get togethers, functions, celebrations and thus they remained untouched

from friends and relatives. The educational institutions arranged online classes and thus a new form of class entered into the life of students.

How are COVID-19, online education and mental health of students inter-connected?

During the COVID-19 pandemic period, most of the educational institutions have switched to online and hybrid modes of instruction and learning. Students found problems to adjust in the new normal due to causes like following new routine, failing to adjust to new environment etc. To quote Katie Lear, “Just as students are being flexible with teachers who are trying out online methods for the first time, it seems fair that teachers should extend that same flexibility back to students”. Teachers who modify their expectations for what this semester should look like may find themselves with happier, healthier students” (Wirth, Jenna, 2012, dailyorange.com). Many students’ mental health has affected as they attended and opted for online instructions for longer period, still there were no ways out to go for face-to-face interactions. It also created anxiety, depression and perceived attention issues among the students irrespective of places throughout the globe. In normal situations there are so many mundane social interactions like walking and talking between classes with friends, going to canteen in break times, small discussions with teachers and classmates before, between and after classes etc which students now miss. Many students develop social anxiety due to the facts like they have to look presentable during online classes; their room backgrounds should have to look descent and so on. Katie Lear, a mental health counselor in an interview with The Daily Orange said, ‘I hear a lot of concerns about the webcam feeling very invasive. Everyone is looking directly into a close-up of your face when you talk, and it feels like there’s nowhere to hide. I find these students tend to be hyper-aware of their appearance on camera and feel self-conscious or self-critical about how they look on screen’ (waw.dailyorange.com).

Again, Brian Wind, a clinical psychologist adds, ‘Although video calls have become an ideal solution to remote learning, they often can wear on one’s psyche. Zoom exhaustion has become a real problem with back to back online classes. Students may find video calls to be so draining because they’re struggling to process non-verbal cues, such as body language, or voice tone’ (The Daily Orange, 2021, <http://dailyorange.com/2020/10/online-classes-cause-mental-health-struggles-students>). Many a time, online classes create awkward silences and no interaction and students if find no interest develop no tendency to ask questions during classes and just attend it for the sake of attendance only. The traditional face-to-face classes that offer opportunities for students to take a quick walk, going for drinking water, toilet etc before the next class start are also missed terribly by students and if the number of online classes are more in number per day, it make students frustrated. The fear of continuous uninterrupted bandwidth makes students mentally disturbed. Due to the loss of connectivity during classes sometimes take long time to log in again as it requires permission and acceptance by teachers and so on. Attending online classes for longer period causes headaches, eye strain etc making them restless and tired. By fully immersed in online activities also hamper one’s eating things mindfully. It creates disruption in our eating routing and patterns. Moreover, it negatively altered students’ sleeping patterns and they develop unhealthy and untimely sleeping routines. There are no co-curricular activities for students through online mode. In colleges throughout the years, there are freshman social, annual sports days, cultural

meets, conferences, seminars, social activities, educational trips, picnics, college elections and many more social, educational, cultural activities for students. COVID-19 has created a full stop to all these and students have to make them busy only in online classes and it affects their mental health.

Online learning is now a necessity, not merely an option

Due to the outbreak of global pandemic of COVID-19, the whole world went through total lockdown and its major impact was seen to observe on the education sector. The schools, colleges and universities were suddenly closed down and thus the face-to-face interaction and classes were stopped. It in turn introduced a new form of online pedagogy in teaching and learning. Online learning was not a new form introduced only during this global pandemic, but it was blended with offline mode. But, the Corona virus outbreak replaced the offline mode with online one. The use of technologies in the educational institutions came into complete force. The educators had to prepare them with new knowledge, skills, techniques etc to shift their offline classes to online overnight. Under such circumstances the major thrust was not to look after whether students got quality education or not, but to look whether such massive students' population were covered by online classes or not. The educational institutions were judged by the pace they could as early as possible to adapt to such changes and the quality they could maintain. The authorities of the educational institutions kept strict scrutiny on the performances of their teachers. Teachers who would about to retire from jobs and hardly used any technologies in their teaching were also changed their methodologies by coupled traditional methods with information and communication technologies (ICTs). To satisfy the students for fulfilling educational needs and demands was only possible through online mode. There was online classes, assignments, evaluations, training programme, orientation and refresher courses, faculty development programme (FDP), faculty induction courses etc. So, students and teachers must have to behave as if online form was the inseparable part of their teaching and learning since the day they started teaching and learning.

Review of related literature

Worldwide the COVID-19 outbreak has disrupted and affected the lives of people of all categories. It created uncertainty and anxiety among all specially the students community. They were stressed and it affected their psychological set-up (Al-Rabiaahab, A., Tamsahab, MH., Al-Eyadht, AA., et al. 2020 & Kafka, AC. 2020). The students lived abroad were worried about their health, education, safety along with concerned for the family members far from them (Zhai, Yusen., Du, Xue. 2020). Some of the questions arouse in the minds of students during the pandemic situations were whether the educational institutions would take measures to support the mental health of students? Do the universities have sufficient academic counselors to deal with the students? (Cheng R. 2020). Changwon Son found multiple stressors that contribute among students to increase stress, anxiety, depression etc. As the students had to stay long within home during the lockdown period, negative thoughts were found to develop among the students of higher education. After pandemic with the opening of the schools, there was a lot of uncertainty among the high school and college students regarding the upcoming years. The students had to return their campuses, face health issues, still had to attend online classes from the campus and no

regular offline classes for long etc according to the study conducted by Sarah Ellis. The study of Alexander Kecojevic et. al. showed that students faced high level of depression while focusing on academic work. According to a survey of Active Minds, 85 percent students reported that the stay-at-home orders made them disturbed, felt the need of professional mental health service etc. Online learning encompasses a wide range of technologies like the world WideWeb (WWW), E-mail, chat, new groups and texts, audio and video conferencing delivered through computer network to impart education according to Dhull Indira et. al. The twenty first century's educational institutions get impetus to go for online education and at least online-offline combination mode (while complete online is not possible) due to the widespread expansion of internet connectivity, availability of different e-applications, modern gadgets etc (Rahman, A. 2021). According to this study, it helps in the emergence of concepts like VLEs, MOOCs, blended learning, flipped classroom etc. These sources are very valuable regarding accessibility, flexibility, innovations, affordability, and modern learning pedagogy and so on. Shifting to online mode is beneficial for those categories of people who regularly can not afford offline classes in the institutions like students of remote areas, service holders, housewives etc. It gives the opportunity to attend classes regardless of their location and one admitted in particular educational institutions can attend online classes in any other institutions as well. It is also a low-cost learning regarding time consumption, energy consumption, transportation, accommodation and overall cost of being in an educational institution. Moore and Kearsley (2012) highlight the need of online education as increase access to learning regarding equity, provides opportunities for updating skills of the workplace, improves cost effectiveness, balances inequalities between age groups, adds international dimensions to the educational experiences and so on.

Purpose of the study

The primary purpose of the study is to throw light on various aspects of mental health among undergraduate students during the COVID-19 period in the state of Assam.

Research questions

1. What were the various modes of online learning during COVID-19?
2. What was the time duration of the online classes?
3. What was the overall learning experience of the students during COVID -19?
4. What was the stress level of students during COVID-19?
5. What were the common problems faced by students regarding online classes?

Methods and materials

The study made use of descriptive survey research. In order to collect data regarding the various research questions, the investigator selected 150 undergraduate students randomly from different provincialised colleges of Assam with the help of a questionnaire. It consisted of 16 close ended questions having 'Yes' and 'No' responses. The questionnaire was self-structured by the investigator. The questions included covered all the aspects related to the purpose of the study and research questions. As the primary data

using the questionnaire were collected after the COVID-19 lockdown period over, therefore data were gathered from face-to-face interaction with students and not using any other mode.

Results and discussion

The results of the study are presented in the form of tables and graphical representations in sections as per the research questions.

Table 1

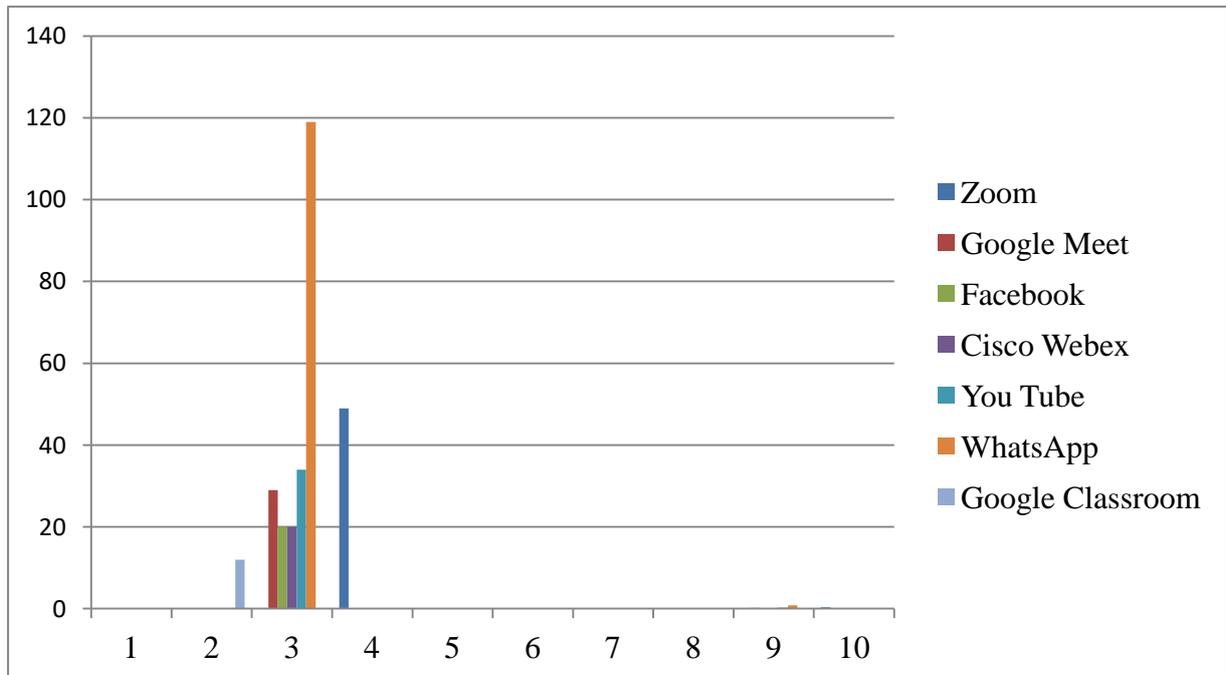
Modes of online learning during COVID-19 (N=150)

Modes	Frequency	Percentage to Total N
Zoom	49	33%
Google Meet	29	19%
Facebook	20	13%
Cisco Webex	20	13%
You Tube	34	23%
WhatsApp	119	79%
Google Classroom	12	0.8%
Total	150	100

Source: The author

Figure 1

Modes of online learning during COVID-19 (N=150)



Source: The author

Table 1 and Figure 1 show that the highest frequency percentage among students regarding the modes of online learning is found in the category of WhatsApp (79 percent) followed by Zoom (33 percent) , YouTube (23 percent), Google Meet (19 percent), Facebook and Cisco Webex 13 percent each and Google Classroom (0.8 percent).

A similar kind of study conducted by Mishra Loknath et al.(2020) makes detailed discussion regarding various modes of online learning during lockdown.The sample university selected for data collection in his study developed its own LMS (Learning Management System) due to the suspension of offline classes for students. The various digital modes of online learning during that period include Google Classroom, Zoom, Cisco Webex, Skype, Swayam Prabha educational DTH channels/ Zonet Cable TV, Email, telephonic conversation, Telegram etc. The rcorred classes on Youtube also got popularity.

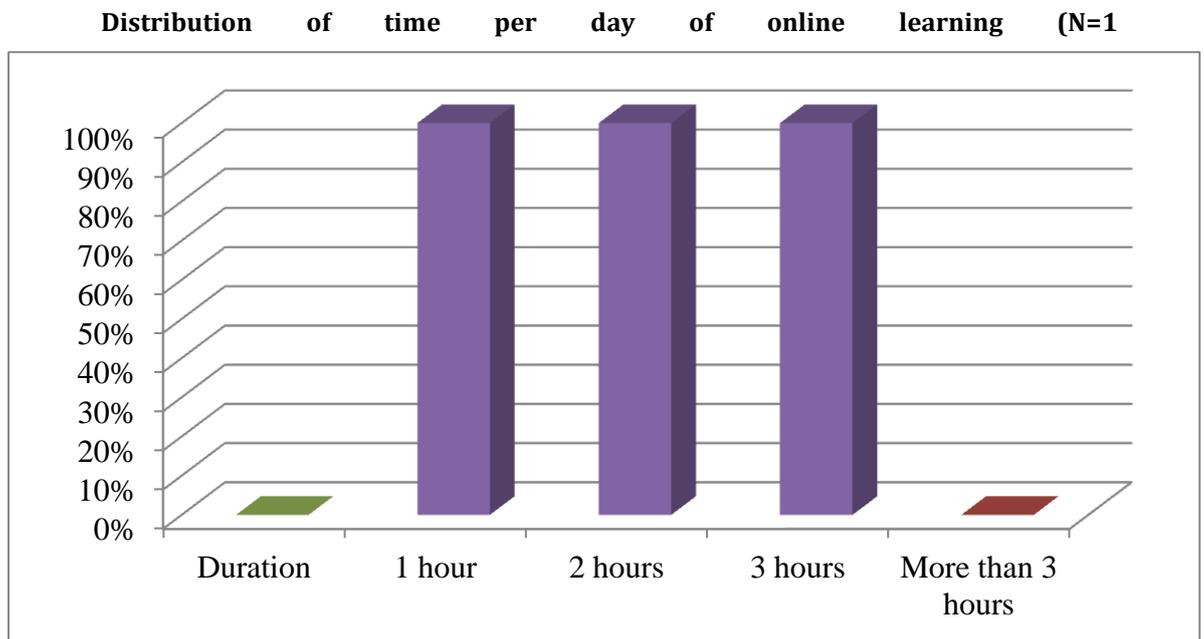
Table 2

Distribution of time per day of online learning (N=150)

Duration	Frequency	Percentage
1 hour	82	55
2 hours	36	24
3 hours	32	21
More than 3 hours	0	0
Total	150	100

Source: The author

Figure 2



Source: The author

Results of Table 2 and its corresponding Figure 2 show that 55 percent of students attended online classes 1 hour per day, 24 percent attended 2 hours per day along with 21 percent attended 3 hours per day. There was no student found who attended online classes more than 3 hours per day.

The results make us thoughtful to go through some facts in a country like India. According to one survey conducted by IRES in 2020 (Agarwal, Shalu et.al, 2020), there is 2.4 percent Indian households still not connected by electricity. If we see on average, an Indian household receives 20.6 hours of power supply per day. In case of urban areas it is 22 hours and for rural it is 20 hours per day. But, it is more crucial for the households having no electricity connections specially in the pandemic situation when the students had to attend online classes by using mobile phones, laptop, desktop etc.

Regarding internet connectivity, as per the report of a survey conducted by QSIGAUGE, which Nair (2020) mentioned in his study, two most prominent issues regarding the attendance in online classes for students are internet connectivity and signal issues. Students if have to attend online classes require sufficient amount of data consumption which many of them do not have at their home. In case of the video classes the amount of data consumption are more than the audio classes. The poor students are failed to avail it and in India the Governments also unfortunately not offered such free or subsidised internet data packs for students (specially the below poverty line students) during COVID-19 period.

Table 3

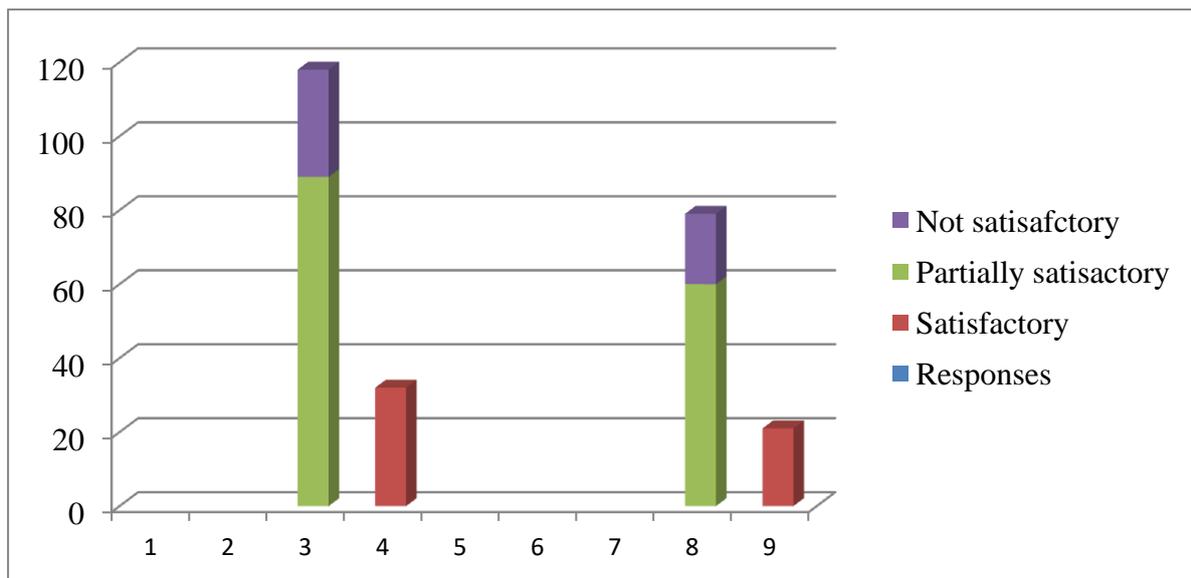
Overall learning experiences of students during COVID-19 (N=150)

Responses	Frequency	Percentage
Satisfactory	32	21
Partially satisfactory	89	60
Not satisfactory	29	19
Total	150	100

Source: The author

Figure 3

Overall learning experiences of students during COVID-19 (N=150)



Source: The author

Table 3 and Figure 3 reveal that more than half of the students (60%) are partially satisfied regarding their overall learning experiences during COVID -19 period. 21% students have satisfactory experience, while 19% students have unsatisfactory experience.

As per the write up by Igor Debatour (2020), the main reasons of students' dissatisfaction towards the online learning are adaptation difficulties, wrong expectations, technical issues, poor time management, motivational issues, too much flexibility, lack of human contact etc.

Table 4

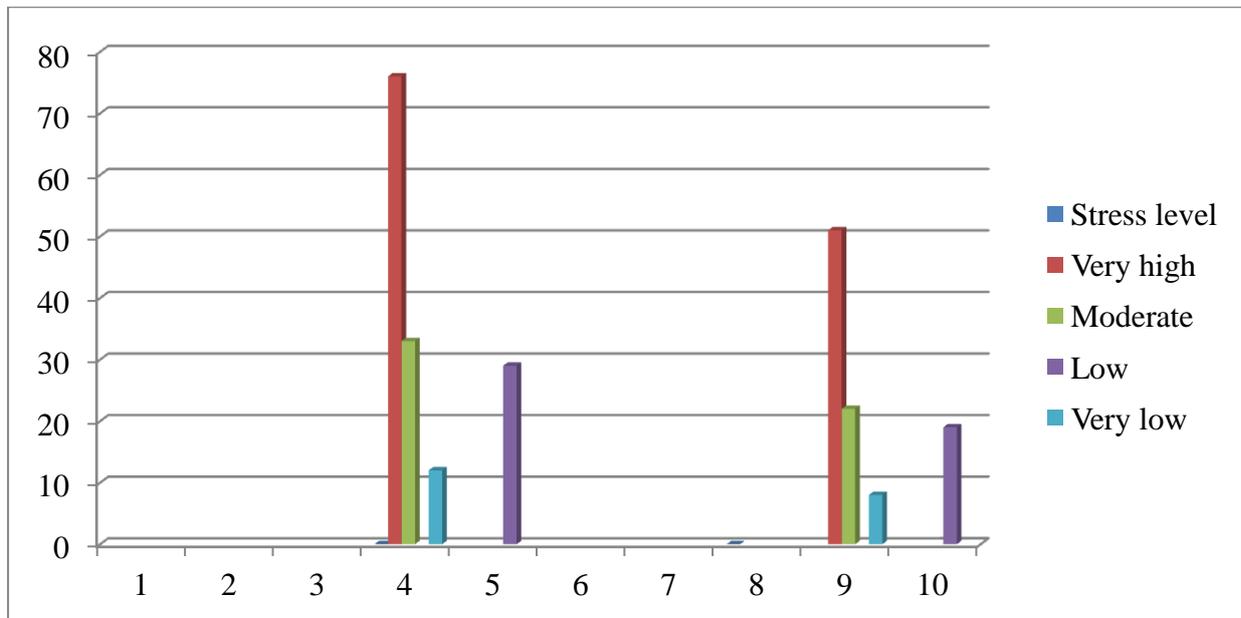
Stress level of students during COVID-19 (N=150)

Stress level	Frequency	Percentage
Very high	76	51
Moderate	33	22
Low	29	19
Very low	12	8
Total	150	100

Source: The author

Figure 4

Stress level of students during COVID-19 (N=150)



Source: The author

Regarding the stress level among students, the results depicted from Table 4 and Figure 4 show some shocking revelations as more than half (51 percent) of the students have very high level stress. 22 percent students have moderate, 19 percent have low and a very few (8 percent) have very low level of stress. These make us to believe that through how much insecurity, stress, anxiety etc students had gone through in ever first in the history of a prolonged lock down situation. In this context, Usama Rehman (2021) said that students during the lock down period were unable to get enough supplies of daily essentials. They were unable to meet their friends and attend colleges. There was extreme uncertainty regarding academic years, upcoming examinations etc. The online classes seemed to be very unattractive and they had no entertainment sources available.

Common problems faced by students during online study

The investigator tried to find out the various types of problems faced by students pursuing online study during the period of COVID-19.

Table 5

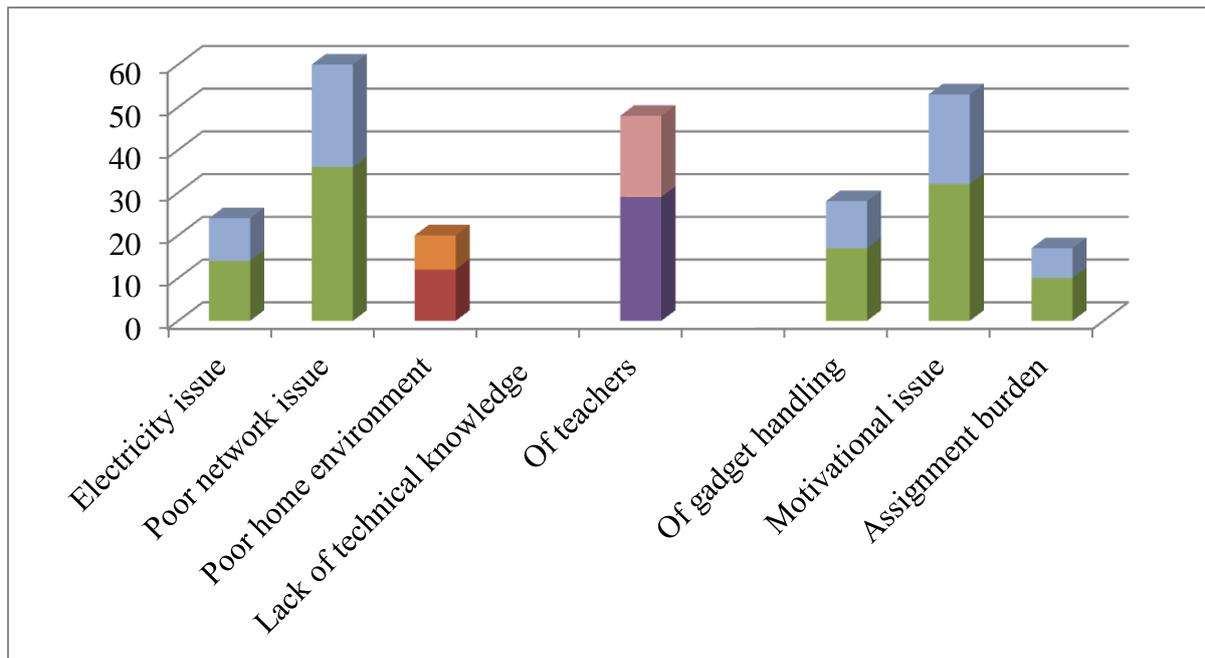
Common problems faced by students during online study (N=150)

Problem type	Frequency	Percentage to total N
Electricity issue	14	10
Poor network issue	36	24
Poor home environment	12	8
Lack of technical knowledge Of teachers	29	19
Students' improper knowledge of gadget handling	17	11
Motivational issue	32	21
Assignment burden	10	7
Total	150	100

Source: The author

Figure 5

Common problems faced by students during online study (N=150)



Source: The author

Keeping in view the present digital facilities and infrastructure scenario in India and specially in Assam, the investigator identified some common problems that were more prominently faced by students in pursuing online classes. According to the data gathered from students presented in Table 5 and Figure 5, the mostly countered problem was poor network issue (24 percent), following motivational issue (21 percent), improper technical knowledge of teachers (19 percent), electricity issue (10 percent), poor home environment (8 percent) and assignment burden (7 percent).

Online learning by its nature depends mainly on technological devices and internet (Yulia, Heny. 2020). The problems of online learning occur due to some typical technological issues like lack of knowledge of using gadgets, slow or unstable internet connections, browser's incompatibleness etc. The low social-economic students can not afford bandwidth connection and devices like computer, mobile phone, laptop etc to support online learning (Sun, 2020). Moreover, conduction of assessment posed great challenge for students. For those students whose parents are not competent enough to handle technological gadgets, they have to face even more challenges to guide their children during online assessments. For example, in giving assessment in Google Classroom for a student of class I or II where they have to write answers in scripts, then to take photographs of the answers, converting it to PDF files,

upload in Google Classroom etc are not everybody's cup of tea. Moreover, the teachers' control has to be limited as they can not check whether students appear in examination by their own efforts or by taking help of others.

Conclusion and suggestions

Global disruption has occurred due to COVID-19 that affected every single aspect of our life. The temporary closure of the educational institutions worldwide is the perfect telling example that has created a sense of insecurity, dissatisfaction, anxiety, uncertainty etc among the pupils, teachers, parents, administrators etc. In order to ensure continuity of students' learning, online classes have been arranged in place of face-to-face classes. As a result, students and teachers of a country like India who were not that much used to the platforms like Zoom, Google Classroom, Cisco Webex etc came into force regarding online leaning. The normal setting of classroom duration have been changed and these were arranged as per the convenience of the teachers as well as students. Slowly online learning has become a new normal in everybody's life.

The results of the study have revealed not-so-satisfactory results of online learning during COVID-19 period. Online learning which has come into our life as a great supplementary of offline education, but the entire process of online education is not able to bring a very overwhelming and satisfactory picture. The very root cause of it is the infrastructural void prevails in our country since very long, which is not up-to-date even till now. Poor internet connectivity, lack of proper knowledge of parents, irregular electricity, high cost of data packs, lack of motivation, lack of favourable home environment, unskilled teachers to conduct online classes, improper timing etc have been turned out as barriers in this field. All the adverse effects of online education have been observed directly on the mental health of students. Our students are only used to face-to-face classes where they can meet their peers, clear their doubts, and learn from experienced teachers and so on. The evaluations, assessments and examinations are conducted regularly at regular intervals. But, the overnight announcement of total lockdown in the country has shuttered all these things and slowly students become great victims considering their education. The teachers who were so much skilled in discussion, lecture, demonstration etc are seemed to be lack of technical knowledge and thus making online education a total failure. This directly affects the mental health of students. Some students might be at the risk of isolation from the society specially with peers develop mental health issues. They had to live by themselves having no direct contact with friends, family members, no entertainment, outings, hangouts etc. When our country is striving for providing quality education at all levels, now have to face a new trauma due to unsuccessful online education. The picture of online education might seem to be successful if compared it as supplementary to offline classes, otherwise to make online education a total success the whole infrastructure has to be arranged in an innovative way and which can save our children from mental problems by designing the system the way students aspire to have.

Lots of issues have emerged regarding COVID-19, online education and mental health of college students. Still one can not ignore the perks of online education in the time of crisis of offline face-to-face

education. The technical difficulties regarding online education can be solved by pre-recording of video classes, testing the subject-matters, keep ready a supplementary plan so that the teaching –learning process should not get affected (Dhawan, Shivangi, 2020). The teachers should understand the needs of students and if possible should make groups and take classes accordingly. Though a very new form for most of the teachers, they should be technically skilled by getting training that are also available online, because with this new trend and popularity of online education, the teachers should be efficient enough to take online classes even if the face-to-face mode is going on. The students can be made alert by the teachers by setting time limits and reminders. Personal attention should be made to those students who are normally slow learners in class and who can not adapt to such environments easily. Groups in WhatsApp and other social media forums can be formed to get connected with students easily. Personal communication should be made in texts, video calls etc for students who have already been suffering from any mental health issues (those who have already been detected by teachers in the offline classes). Proper feedback from students will help the teachers to know the efficiency of lessons' delivery. Also, here come the responsibilities of parents, administrators and mental health professionals to curbe the problem of mental health of students. Parents should keep eye on the mental health of their wards by taking proper care, giving technical help while necessary, getting connected with teachers etc. Similarly, the college heads should monitor the entire process regularly. The mental health professionals should be ready with new zest, energy and best of their practices and knowledge to help, guide and counsel the students' community.

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Author's bio-sketch

Monjusree Bora, aged 38, was born in Morikalong, Nagaon, Assam, India. She received the Ph.D degree in Education from Gauhati University, Guwahati, Assam, India on '*Perception and attitude of college students towards computer education in the Nagaon district of Asam: A study*'. She is currently an assistant professor in the department of Education, Raha College, Assam, India. She has more than 10 years of teaching experiences in +2, undergraduate and post graduate level. So far, she has authored 2 books on courses affiliated to Gauhati University, published 10 research papers /articles in journals, edited books and proceedings. She also has presented papers in national as well as international seminars and conferences.