Indian Journal of Adult Education 86 (1) 2025, 152-170
https://www.iaea-india.com DOI: 10.5958/0019-5006.2025.00012.9
ISSN 0019-5006

Repositioning Higher Education through Online Learning: Experiences of both Teachers and Learners in Assam

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Abstract

This paper is based on a study carried out among some teachers and learners in the Indian state of Assam during Covid 19 pandemic as well as post pandemic situation to know their experiences with online learning. For the purpose of the study, a total of 480 learners and 220 teachers from the colleges and universities of Assam were randomly selected from across different districts of Assam. A Structured Questionnaire was designed in Google form to know about their perceptions and experiences regarding online and blended learning and their feedback was analysed with the help of Google analytics. This paper shares important findings. Steps like providing equitable access to education, care and justice, ensuring timely delivery of learning contents, utilising suitable methodologies to engage the learners; strengthening learners support services, etc., could emerge as the country wide solutions. The findings are apparently local yet specific and they could initiate a paradigm shift in the teaching-learning pedagogy in the country of tomorrow. This study would help in drawing a roadmap for proper use of online and blended learning in India at the policy level as well as in conceiving the role to be played by the Higher Educational Institutions (HEIs) in future so that a better and sustainable educational ecosystem could be implemented in India.

Keywords: *Online learning, blended learning, Covid 19 pandemic, sustainable education, repositioning.*

Introduction: The Context

The education systems across the globe had faced an unprecedented crisis following the outbreak of the Corona Virus (Covid 19) pandemic since March 2020 from the effects of which the whole world is gradually recovering today. The

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consequences of the crisis, as supported by a large number of researches, are most apparently felt in the socio-cultural, economic, educational and political arena of the society as a whole. UNESCO and UNICEF (2020) reported that more than 1.5 billion learners from different age groups from around the globe were affected due to the closure of schools and universities which equalled around 90% of the world's total enrolled learners. To slow down or prevent the spread of the pandemic, the heads of several countries followed strict procedures such as lockdowns, partial closure of educational institutions, adoption of social distancing norms, providing flexible working hours to the employees or closing down the work places where people could infect each other. This situation forced all types and levels of educational institutions to operate from a distance and certain emergent online teaching learning practices were put in place to mitigate the crisis.

Around the same time, the Global Education Monitoring Report, 2020 provided an in-depth analysis of the key factors for exclusion of learners in the education systems worldwide including their background, identity and ability (based on markers like gender, age, location, poverty, disability, ethnicity, indigeneity, language, religion, migration or displacement status, sexual orientation or gender identity expression, incarceration, beliefs and attitudes). It identified an exacerbation of exclusion during the Covid 19 pandemic and estimated that about 40% of low and lower-middle-income countries had not supported the disadvantaged learners during temporary school shutdown. Hence, the Report urged all those countries to focus on the left behind learners as schools reopened so as to foster more resilient and equitable societies. Even when the 1st and 2nd phases of the pandemic-induced lockdown hindered the development of the socio-economic and educational sectors across the world, UNESCO revealed that 40% of poorest countries failed to support its learners at risk during the pandemic and urged their inclusion in education. About 10% countries also implemented laws for ensuring full inclusion of education for all.

Regarding access to ICT, NSSO 75th round (2018) mentioned that only 23.8% households in India have internet facilities where the percentage in rural areas is 14.9 % and urban 42.0%. Similarly, the percentage of households with computers as a whole is 10.7% (rural 4.4% and urban 23.4%). Besides, regarding the users' point of view, only 16.5% and 20.1% people of India are able to operate and use the computer and internet facilities (NSSO 2020). In case of Assam, the percentage of households with computers and internet facilities were 7.5% and 17% respectively, which is much lower compared to states like Delhi, Gujarat, Haryana, Himachal Pradesh, Karnataka etc (NSSO 2020). The position of India in terms of rural population with access to electricity is quite good (89%, in the year 2017) compared to some

countries such as South Africa, Namibia, etc. (HDR 2019). As COL (2021) has pointed out, "The poorer the country, the more likely access of online technology and equipment are unequally distributed. In several less economically developed countries, only the wealthy people are able to access streamed video lectures compared to non-wealthy and economically poorer sections of the people. In fact, inequalities in digital learning exist and the same reflect broader social inequalities globally and nationally."

The NEP 2020 also anticipated an increase in government education spending from 10% to 20% by 2030, with an emphasis on supporting higher education, bringing down gender, social and economic gaps, etc. Guidelines for enforcing this inclusive strategy, in particular for allocating funds to different areas, such as K12, STEM education, higher educational institutions, and bridging the digital gap between Tier 1, 2 and 3 cities through implementation of technology in the education sector, were visualised in the Budget 2021. It was expected that through massive investments in ed-tech and blended form of learning, the NEP 2020 would further enhance integrated, experiential and immersive learning while enhancing vocational training and retraining facilities, non-academic education and improving skill growth to increase India's employability ratio that would help to build a modern India (Govt of India 2021). However, in 2023-2024, the department of higher education received a high budget allocation of Rs. 44,094 crores with an increase of 8% over last year.

The Covid 19 pandemic significantly impacted education worldwide, leading to a widespread shift toward online learning. This transition was driven by the urgent need to adhere to social distancing measures and reduce the spread of the virus. But, the compulsion to use online or blended learning by the teachers and learners in a country like India at the initial phase of the pandemic requires to be studied purposively. At a time when both teachers and learners of the ODL institutions embraced online and blended education without much difficulty, how those associated with conventional universities reacted to that need of the hour has to be carefully researched. While, several of the face-to-face teachers and educators were facing the fear of job loss, the role of teachers as facilitators of learning also created new hopes. Thus, capacity building of the teachers for equipping them with the skills of designing and offering education online began to be considered a preparedness drive in post-Covid situations in India. However, it is also important to explore the issues like acceptability of online and blended learning in both conventional and distance learning institutions, response received about online learning from rural and urban areas, differences between colleges and universities in the use of technology, etc., so that need-based policies could be adopted and implemented in the coming days

The present study was undertaken among some teachers and learners of various colleges and Universities in the state of Assam to find out their perceptions about online learning during the pandemic and how their acceptance of technology would help in repositioning higher education in Assam as well as in India as a whole. The purpose of the paper is to discuss the experiences of both teachers and learners while resorting to online teaching-learning during the pandemic, the issues and challenges they faced in the specific context of the Indian state of Assam.

Rationale of the Study

A North East Indian state like Assam is currently having as many as 28 universities and 595 colleges (Educational Statistics, 2021) to accommodate the increasing number of learners in the ambit of education. However, the lockdown caused by the pandemic had also disrupted the educational systems of the entire state. During and after the pandemic, it has been realised that while technology-assisted learning emerged as one of the viable means to overcome the multidimensional challenges caused by the pandemic, questions like availability of internet, proper utilisation of the educational tools, pedagogical issues of distributed and blended learning and the challenges of providing need-based support services to the learners, particularly in the context of higher educational institutions of the country need further investigations. It is equally important to explore the actual impact of the various resilient approaches used by the educational institutions for imparting education during the Covid 19 crisis. This study was undertaken to know the perceptions of the teachers and learners about online and blended learning so that a future roadmap for an adequate techno-friendly learning environment across the state could be framed. Besides, the study also outlined the different ways of identifying the factors affecting the online learning readiness in Assam so that an affordable and accessible techno-friendly pedagogy could be adopted as a model for better teaching-learning experience in the state and the country as a whole.

Review of Literature

A number of researches conducted from India reveal that online and digital education had provided an enriched teaching learning experience during the Covid 19 pandemic putting the traditional models of education into scrutiny.

Bajaj et al. (2021) stated how the Covid 19 pandemic had forced educators to switch to online teaching as the only viable option and to carry out the research, they conducted a survey of 242 university teachers from India during the pandemic based

on Technology Adoption Model (TAM). The research showed that ease and flexibility in the use of technology positively influences teachers' attitude towards online teaching. The researchers expected that such a study would provide a theoretical framework based on TAM to measure the intention and perceptions of the teachers in post-Covid 19 contexts in India. Kamble et al. (2022) stated that the Covid 19 pandemic compelled the educational institutions of India to adopt an online teaching-learning (OTL) methodology. But the same was done without adequate discussion on the acceptance of educational technology by the teachers. The researchers carried out the study using an online questionnaire among the teacher respondents for collecting feedback. The results of the study proposed a valid model to predict technology acceptance by the teachers of India.

Rautela et al. (2022) conducted a study on the role of social media in higher education to encourage Interactive Learning and found that interactions during the online sessions were vital for engaging the learners in the learning process. The results indicated that the learner-learner interactions as well as the teacher-learner interactions were imperative for better and sustained engagement in online teaching. Mathrani et al. (2022) discussed how the issue of digital inequalities while imparting online learning came to the forefront during the Covid 19 lockdown in a developing country like India. For the study, the researchers developed a digital divide framework based on three analytical perspectives–Structure, Cultural practices and Agency—each being influenced by five markers such as—Communities, Time, Location, Social context and Sites of practice. They found that Structural issues are linked with inaccessibility of digital media and supporting services; and Cultural practices indicate gendered discriminatory rules, because female learners reported more stress due to added household responsibilities. Such a situation affected learner agency and posed challenges for learners in meaningfully maximising their learning outcomes.

Based on the above reviews, it can be understood that online education played a catalytic role by offering the most resilient means of education during the Covid 19 pandemic in a country like India despite the most obvious challenges including the digital divide or inequalities. However, acceptance of technology by both teachers and learners, use of social media for teaching learning purposes, issues of mental health of both learners and their parents are some of those problems that will have to be addressed with openness. As no similar studies can be found from the state of Assam, with representative samples from every part of the state, the present study holds much significance.

Objectives of the Study

The main objectives of the paper are to:

- study the state of online or blended courses offered by the higher educational institutions in Assam (both conventional and ODL);
- learn about the experiences of both the teachers and learners regarding the use of online and blended learning during the Covid 19 pandemic and post pandemic; and
- find out the prospects and challenges of online and blended learning for transacting academic contents in post Pandemic conditions.

Methodology

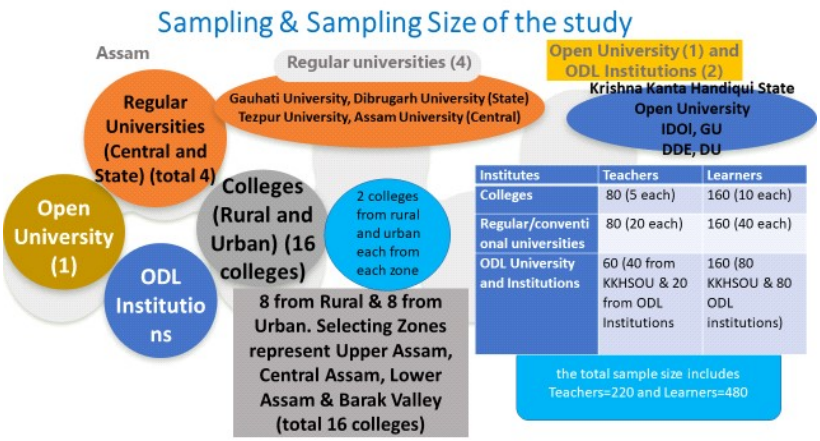
For this study, a survey method was adopted to discuss how the various online and blended learning approaches had been used for academic transaction and also what types of resilient approaches been adopted for providing education during the Covid 19 pandemic and post pandemic situation.

For conducting the research, a total of 480 student respondents and 220 teacher respondents from the colleges and universities (Central, State, Open) and ODL directorates of Assam were selected based on stratification from across different districts of Assam. However, the selection of two colleges from urban and rural areas from each cluster, was based on purposive and convenient sampling. This type of selection would shed light on the differences or inferences in using the online services for teaching-learning transactions.

Regarding universities as samples, out of total 21 universities in Assam, teachers and learners of two state universities namely Gauhati University and Dibrugarh University were selected for the study as these are the oldest state universities in Assam. Apart from them, two other existing Central universities i.e. Tezpur Central University and Assam University, Silchar were also selected. Besides, data was also collected from the teachers and learners of Krishna Kanta Handiqui State Open University, Assam which is the only state open university in the entire North Eastern part of India. Additionally, feedback was also collected from the teachers and learners from two other ODL institutions namely, Gauhati University Institute of Distance and Open Learning (GUIDOL) and Directorate of Open and Distance Learning, Dibrugarh University. Stratified sampling technique was used for selecting the universities and institutions, but for knowing the experience of the teachers and learners about online and blended learning, random sampling technique was used.

As part of the study, a few teachers (220) and learners (480) were randomly selected from the selected universities and colleges across the state, based on convenient sampling. T-test was done in order to see the differences between the students and teachers towards the used of digital and online devices and their experiences. Besides, narrative approach research was also used to know the perceptions of the teachers and learners with the help of Facebook messengers and video calling through WhatsApp.

The framework of selecting universities and colleges is shown in **Fig 1** below:



Tools Used

For collecting data, two sets of open-ended questionnaires had been developed, distributed with a Google Form and the collected data were analysed through Google analytics. Both the questionnaires were divided into three sections.

Section A covered the demographic and general information of the learners and teachers.

Section B enquired about the perceptions and experiences of the teachers and learners on online and blended learning.

Section C contained questions like the basic differences between OERs and MOOCs, awareness level of MOOC under SWAYAM, primary reasons for taking an open online course, credit credentials, best way for content transactions at the time of crisis, awareness about the courses offered by COL, Canada and others for

the lifelong learners, hurdles in accessing online materials, etc. The duration of data collection was for two months from July 2022 to August 2022.

Analysis of Data

a. Responses of the Learners

Regarding learners' responses on online and blended learning in Assam, it was found that they preferred to use online or digital devices for transacting their course contents during the pandemic irrespective of the mode and location of the institutions, etc.

Regarding the profile of the respondents, it was found that out of the total of 160 learners, majority of them (91.7%) were from the age group of 18-24. However, a few learners were also found from the age group of 25-34 and 35-44, as the respondents were from both regular and ODL modes of education. Again, out of the total respondents (480), 52.4% were female and 47.6% male.

The selected respondents were enrolled in various programmes at the colleges and universities across the state. Out of the total respondents, 52% were pursuing Master's programme, and 48% were pursuing Bachelor's Programmes. In respect of the disciplines of the respondents, it was found that 39.9% were from the Humanities, 27.4% from Basic/applied disciplines, and 22.6% from other discipline, i.e., Science and Social Sciences.

The time of enrolment also determine the use of online or blended mode of learning on the part of the learners. Most of the respondents were newly registered and they were quite familiar with the use of technological devices for teaching-learning purposes. This was because the outbreak of the pandemic already facilitated transaction of course contents in online or blended modes across the state of Assam.

Regarding the awareness level of the respondents on the use of ICT based technology, majority of them (91.6%) had the basic idea on the use of ICT and digital devices in accessing the course contents.

In terms of using the most effective ICT based support services during Covid 19 induced lockdown, it was found that 64.1% respondents revealed that mobile app was the most effective tool during the crisis, followed by 51.3% respondents who favoured using websites, 41% digital library, 32.1% learner's portal, 26.9% Learning Management System and lastly 12.8% internet radio, as seen Fig. 2 below.

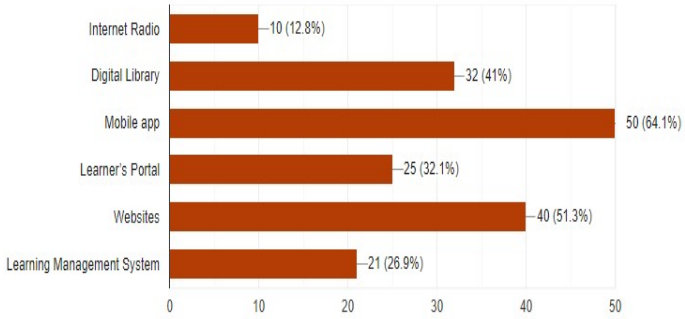


Fig 2: Most effective support services used during the Pandemic

Again, 56.6% respondents revealed that Meeting applications like ZOOM and Google Meet would be the best ways for transacting the course contents followed by Emails, WhatsApp (45.8%), YouTube (44.6%), Google Classroom (39.8%) etc., as visible in Fig.3.

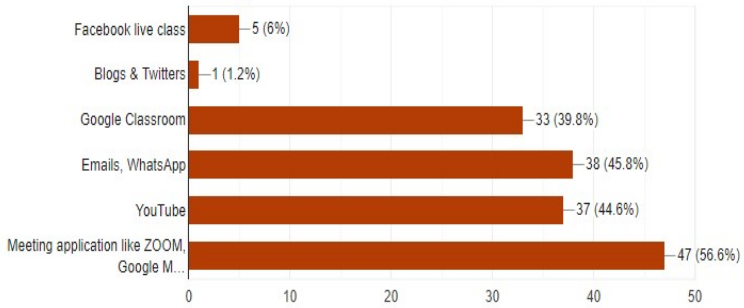


Fig 3: Most effective ways for transacting the course contents during the Pandemic

Regarding the use of social media, learners had different experiences and views. From the study, it was found that 78% learners revealed that YouTube is the most popular social media for disseminating knowledge during the crisis situation followed by WhatsApp and Facebook. The Fig 4 revealed the popularity of the social media as well as remote learning media like TV and Radio during the crisis situation in Assam.

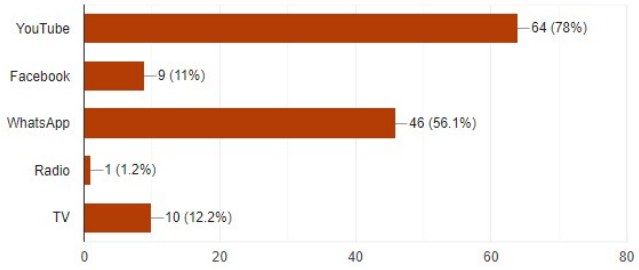


Fig 4: Popularity and Acceptability of the Social and remote media during the pandemic

In the context of popularity of printed text books and E-text books, it was observed that about 83% learners were in support of printed materials, only about 17% learners preferred text books. As the majority of the learners (65.4%) revealed that printed materials are good and better as it can be easily accessible at anytime and anywhere. Again, 19.2% learners opined that E-materials are user-friendly, for some learners (about 14%) the E-materials are beneficial as the problems of not getting the hard copies of SLMs/Text books on time is solved.

Majority of the respondents agreed that the practice of using ICT based devices helped them to build up self-confidence besides upgrading their skills and knowledge about the use of ICT based tools for academic purposes. However, 19.3% respondents were undecided as to how it helped them in terms of skill-enhancement. Fig 12 shows the perception and experience of the learners regarding the use of ICT based devices helped them develop their skills.

Regarding the awareness level of the learners towards the initiatives taken by the government for popularising the online platform or web resources among the learners such as Sodhganga, MOOC courses under SWAYAM platform, etc., it was seen that 47.5% learners were aware of the resources in Sodhganga. The learners at the universities were more aware of the web resources as they used them for the purpose of their research related works.

Again, it was also found that 44.4% learners had enrolled in online courses. However, a majority of them were from regular universities compared to colleges and ODL institutions. But although several learners enrolled in different online courses, only a few of them (a total of 5 learners) completed the courses. Whereas, the rest of the learners revealed the factors behind the hindrance of completing MOOCs.

Regarding the hurdles in terms of accessing online devices during the pandemic, the majority of the learners (77.2%) revealed that poor internet connectivity was the most responsible factor that hindered their access to online support services during the pandemic followed by problems like lack of electricity (10.1%), lack of proper digital services and also the factors like ignorance of using ICT based tools.

Thus, in the above analysis, an overall understanding of the experience of the learners regarding the use of online or blended learning could be gained. From the analysis, it was also found that during the pandemic, irrespective of their background, locality and gender, the learners had to adopt technological devices for getting information and the much-needed academic contents as they tried to fulfil their academic queries mostly through virtual meetings with their mentors, teachers or counsellors.

b. Responses of Teachers

The experience of teachers regarding acceptance and usability of online and blended learning during the Covid 19 crisis was somewhat similar to the responses and feedback provided by the learners. Regarding the profile of teachers, it was found that most of the respondents (45.9%) were from Social Sciences followed by Humanities (27.9%) and Applied sciences (26.2%). Besides, the majority of the respondents were female teachers (55.7%). Regarding the awareness level of teachers in using ICTs for online teaching, it was found that out of total respondents (220), 98.4% were familiar irrespective of the mode, stream of engagement, gender and educational levels. Besides, it was also found that 47.5% and 39.3% teachers agreed and strongly agreed that the use of ICT for transacting the course contents helped them to develop ICT skills.

When the experience of the teachers regarding the use of ICT tools for teaching purposes was considered, it was found that the young teachers were very much interested to use technological devices compared to the teachers of older age groups. Most of the respondents were from the age group of 35 to 44 (54.1%), followed by the teachers of the age group of 25 to 34.

More or less, all teachers used digital devices for transacting the course contents to the learners, as 59% used ZOOM and Google Meet, 54.1% Google Classroom, 39.3% Emails and WhatsApp application, 37.7% YouTube, 26.2% Facebook live class, etc., as is reflected in Fig 5. In fact, it has been observed that the feedback of the teachers was quite similar to those of the learners regarding the most effective ways of academic transaction during Covid 19.

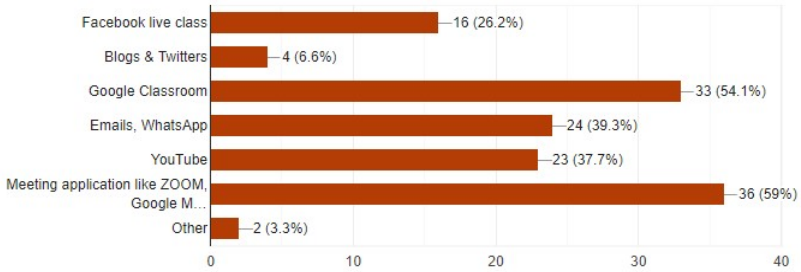


Fig. 5. Most effective ways of transaction during the Pandemic

Regarding the perception of the teachers on social and remote media, it was observed that they had much better perception on the use of TV compared to the learners. 23% and 18% teachers used TV and Radio for education. Regarding social media like YouTube, Face book and WhatsApp, teachers had a positive perception: 62.3% were in favour of WhatsApp, 59% favoured YouTube and 39.3% accepted Facebook as they opined that these social media were the most popular ones in the state irrespective of the location and gender of the teachers and learners as well as the mode of institutions.

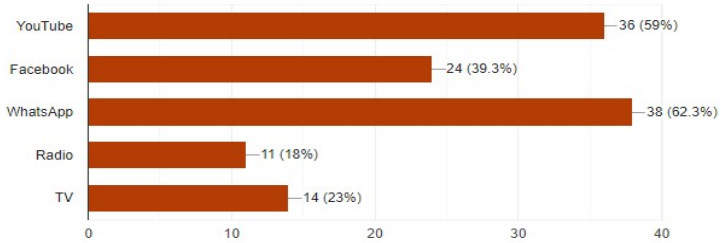


Fig.6. Popularity and acceptability of social media and remote media

The study also tried to explore whether the teachers were willing to enrol in some online courses (like MOOCs) or if they had any prior experiences of having online courses. Only a few teachers (56 teachers out of total, 220) expressed their views about prior experiences of having gone through such courses. Fig 7 shows the perception of the teacher respondents on the acceptability of the online courses. The majority of them (79.4%) were interested to go through the course contents of MOOCs, 38.2% respondents were curious to know about MOOCs and there were also some respondents (23.5%) who were interested to gain skills for enhancing their career and also believed that these courses would help them to get promotion in their current field of employment (particularly the ARPIT Courses of SWAYAM).

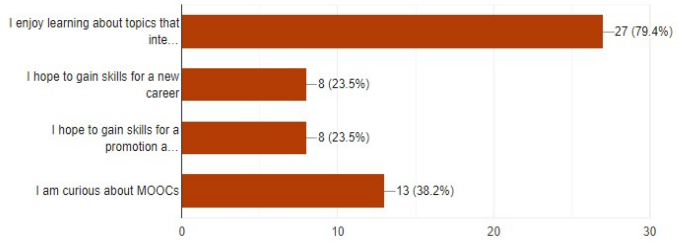


Fig .7. Teachers' Perception on MOOCs

Finally, regarding the hurdles behind the smooth running of the online programmes across the state, it was observed that a major percentage (58.2%) of teachers, like in case of learners, opined that poor internet connectivity in the locality was the main factor for which they could not deliver or access online materials.

Discussion on analysis and summary of findings based on primary data

The following is the summary of major findings of the study.

Parameters	Experiences of the learners	Experiences of teachers
Awareness level towards online learning	About 91.6% learners had the basic idea on the use of ICT and digital devices in accessing the course contents.	98.4% teachers had basic idea on the use of ICT and digital devices in transacting the course contents.
Most effective ICT based support services during Covid 19	56.6% respondents revealed that Meeting applications like ZOOM and Google Meet would be the best ways for transacting the course contents followed by Emails, WhatsApp (45.8%), YouTube (44.6%), Google Classroom (39.8%)	59% used ZOOM and Google Meet, 54.1% Google Classroom, 39.3% Emails and WhatsApp application, 37.7% YouTube, 26.2% Facebook live class etc.
The extent to which the usability of online devices helped the learners in skill development	53% agreed that ICT helped them to develop skills.	47.5% agreed that ICT helped them to develop skills.
Awareness level about the Courses launched under SWAYAM, Sodhganaga	47.5% learners were aware of the resources in Sodhganga and SWAYAM. More learners from universities were more aware of the web resources as they used them for the purpose of their research related works.	58% teachers were well aware of towards the blended and online initiatives taken by the Government in post pandemic situation
Hurdles in terms of accessing online devices during the pandemic situation	77.2% learners revealed that poor internet connectivity in the locality was the most responsible factor	58.2% teachers revealed that poor internet connectivity in the locality was the main factor for which they could not deliver or access online materials.

As stated in the methodology part, the research was based on primary data regarding the feasibility and usability of online and blended learning for which two sets of questionnaires were sent to a few selected respondents (both teachers and learners/learners).

If the findings could be justified through the inferential statistics, it seems that that the mean of teacher's responses and mean of student's responses in respect of different parameters are 116.84 and 273.66 respectively. The S.D. of teachers and learners have been found to be 42.04 and 80.74 respectively. The t-value is found as 5.1126 which is significant at 0.05 level of significance. Therefore, it can be said that there has been a significant difference between teachers' responses and learners' responses in the use of ICT, most effective tools of ICT, benefits of ICT in terms of skill development, and hurdles behind the used of digital services.

Category	**N**	**Mean**	**S.D.**	**t-value**
Teacher	220	116.84	42.04	5.1126
Student	480	273.66	80.74	

Besides, WhatsApp and Facebook Messenger, also helped in collecting the narrations of a few select teachers regarding their perceptions about online learning as resilient approach during the Covid 19 pandemic and how the learners had to cope up with the crisis situation when the universities were closed down. Based on narrative approach of research, one teacher stated: "*teaching practical classes were very much difficult from home without the laboratory support. I had explored many websites including YouTube how to demonstrate the practical classes to the learners effectively even from the home. I took help the Open Educational Resources (OERs) and finally served the purposes.*" This is the way the lockdown compelled the teachers to become innovators and creators regarding the use of online learning tools as well as developing online contents. Similarly, one of the learners revealed "*learning statistics and mathematics is a difficult task through online alone without face-to-face interaction with the subject teachers. As there was no alternative for physical interaction with teacher for understanding the difficult problems related to mathematics, I had to cope up with the situation and invested more time to become a self-learner, and finally I could solve the problems of the mathematics myself.*" These two narrations are the examples of how teachers and learners took the resilient approaches for continuing their teaching-learning process during the Covid 19 pandemic.

From the above analysis, it was found that both the teachers and learners from the selected colleges and universities of Assam, irrespective of the mode of educational institutions, to be embracing online and blended technology for their teaching–learning process. As there was no other viable alternative during the pandemic, they made the maximum use of online or digital devices for their teaching and learning purposes. However, both the teachers and learners of ODL mode institutions were quite comfortable with online learning as they are much more familiar with such options. Again, regarding the digital division between rural and urban areas in accessing online technology, it was found that there are some variations in terms of accessibility as due to poor internet connection and electricity problems, only a few learners and teachers from the rural areas could manage to transact the course contents during the crisis situation.

One of the interesting findings is that the teachers and learners from the conventional colleges and universities revealed the absence of emotional bonding and attachments that they had in their physical classes before the pandemic. Some college teachers were a bit worried to take online classes which they found difficult to manage. It is because due to the pandemic, they were suddenly compelled to use these kinds of virtual platforms that had never been used before. Besides, without knowing much about the pedagogical issues, they had the urgency to engage in online classes for avoiding the disruption in their teaching. At the same time, despite the acute digital gap, learners from the rural colleges also had the compulsion to use the technological devices for accessing the course contents during the pandemic which was quite difficult for them to manage. This situation led to the absence of the emotional, teaching, social and pedagogical presences in teaching-learning transactions among the teachers and learners.

As reported by many teachers, online teaching-learning helped them a lot in developing peer learning habits as well as in forming personalised and collaborative learning habits among the learners to a great extent through exchanging their ideas in the virtual discussion forum. In fact, during the study, it was felt that online learning helped the learners to open up minds by sharing their ideas with their peers in the virtual world. Still, large scale inequalities and area wise disparities were quite prevalent across the selected colleges and universities of rural and urban areas in the state of Assam.

Recommendations

The study conducted among some teachers and learners of educational institutions of the state of Assam reveals that the proper use of online or ICT based technology, could help in re- positioning the entire higher education system in a country like India. However, as a complex process, Online Learning requires systematic planning, designing and careful formulations of the aims and objectives of education to create an effective learning eco-system. During the Covid 19 pandemic, the higher educational institutions of Assam did try to provide helping hands to the needy learners. By adopting certain common online tools, the colleges and universities of the state did render significant services. Live classes through institutional Facebook page, uploading academic contents in the institutional YouTube Channel, providing learner support services by using institutional websites and mobile app etc., are perhaps some of the most important ways through which the educational institutions could transform themselves in the true sense and face the crisis of corona virus with much ease and confidence.

However, the issue of digital inequalities for a sustained online teaching learning experience is still a major concern in a developing country like India and that is the condition with some of the Indian states too. The Commonwealth of Learning (2021) mentioned about multiple levels of digital inequalities which have far reaching implications—first in accessing hardware, software and Internet connectivity; second, its usage by the socially disadvantaged individuals and groups such as women and girls, racialised groups, indigenous communities and persons with disabilities; and third, discrimination caused by emerging algorithms based on race, gender, age, ethnicity and other social factors. Therefore, the educational institutions of Assam should concentrate on having transformative educational agenda and goals in near future aligning their educational policies with those being framed in other parts of the country or globe, so that all forms of exclusion and marginalisation, gaps, disparities and inequalities could be met. Besides, in the 21st century digital world, maintaining equity, access and inclusiveness in terms of accessing online and blended contents is also a considerable issue for bringing transformation in the society. Skilling, reskilling, upskilling of the people, providing scope of education for lifelong learners would be the other dimensions to develop the socio-economic sectors of the nation in the post pandemic situation.

At the time of the crisis, when people were undergoing trauma, stress and psychological pressure, it should be the social responsibility of the higher educational institutions as well as the local governments to develop the online educational contents

so systematically considering the issues like how to share, collaborate and support each other with the motto of providing 'therapy, empathy and care.' Therefore, pedagogical issues must be undertaken while developing the online course content and delivery. The community theoretical framework or social inquiry model that indicate the presence of teaching, social, cognitive and emotional support in the course modules, could be the best model for developing and producing the online modules for the benefits of the learners. Hence, the educational institutions, mostly the higher educational institutions must try to develop the e-contents or modules in such a way that it would serve the purposes of all the people irrespective of class, caste, location in their locality so that people can access the contents at an affordable cost. Only then, repositioning of higher education through online and blended learning in the true sense shall become a reality in the days to come.

Conclusion

An imperative need exists to promote online and blended learning in Assam, where traditional educational models prevail, heavily reliant on face-to-face instruction. Addressing the challenges of limited electricity, internet connectivity and insufficient technological resources in rural Assam shall be important. Overcoming these obstacles would require leveraging asynchronous technology, fostering group learning and encouraging the sharing of technological devices to ensure timely access to course content. Crucially, pedagogical knowledge must be disseminated among the teachers and learners, empowering them to adeptly utilize technological tools aligned with their academic needs. Concurrently, institutional policies should be formulated to establish a State Open Educational Repository, fostering a knowledge movement within society and benefiting stakeholders. Blended learning models have emerged as a formidable option, particularly in the post-Covid-19 landscape, aligning with the preferences of learners and endorsed by the National Education Policy (NEP) 2020.

Flexible learning models, acknowledged for their resilience during crises like lockdowns, necessitate supportive measures such as fee waivers, enrolment and examination relaxations, and the integration of on-demand and online examinations. Open and Distance Learning (ODL) institutions, like the only state Open University of NE India i.e., KKHSOU, assume a crucial role. By establishing an institutional Learning Management System (LMS), the ODL institutions can provide uninterrupted support to learners and teachers from conventional institutions. The convergence of conventional and ODL institutions becomes imperative to facilitate the exchange of learning resources and technology, a trend exemplified by KKHSOU's relevance

during the pandemic. Looking forward, the educational fraternity in Assam should engage in extensive discussions on the pedagogical aspects of technology integration. Widespread adoption of Hybrid Learning Models is essential for increasing accessibility to online technologies, ensuring continuity of course delivery during crises, and addressing the global educational crisis that saw the hasty implementation of online teaching without proper planning and definition.

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