Impact of Digital Learning in Higher Education and Possible Implications of Blended Mode

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Abstract

Learning, in higher education, has seen a paradigm shift with the onset of COVID-19. The sudden closure of all the campuses in India led to the unprecedented situation of completely shifting the teaching -learning process to the online mode, which has never been the norm earlier. In the current scenario, the University Grant Commission (UGC) has proposed the 'blended mode of teaching and learning' in higher education. The blended proposal has been drafted in accordance with India's National Education Policy (NEP) 2020, which focuses on the importance of digital technology for the teaching-learning process from school level to higher education.

Against this backdrop, the study tries to capture the equity, accessibility, and quality aspect of online teaching. An online survey of 200 undergraduate students studying in various colleges of Delhi University was conducted through a structured questionnaire regarding their current experiences. The study uses simple statistical tools and descriptive analysis to assess the impact of online teaching on the learning outcome of the students.

The main findings point out enormous challenges in digital learning, especially with respect to the accessibility, equity and quality of education for the students as well as the teachers. With the existing digital divide in India, the UGC proposal of blended mode where digital learning will become an integral part of the higher education system, is going to make education more exclusionary in nature. The swiftness in moving to the blended mode of system is less likely to serve well the Indian education system, not at least in the short run. Urgent preparation is needed in terms of improving the digital infrastructure, reducing the inequity in education in terms of socio-economic gaps, addressing the issues of quality of learning outcome, and providing essential resources like separate devices, separate space, etc. to students.

Key words: Higher Education, Digital Learning, Blended mode, COVID-19, National Education Policy

Introduction

Learning in higher education has seen a paradigm shift with the onset of COVID-19. The sudden closure of all the campuses in India led to the unprecedented situation of completely shifting the teaching-learning process to the online mode, which has never been the norm earlier. In the current scenario, UGC has proposed the 'blended mode of teaching and learning' in higher education. The blended proposal has been drafted in accordance with India's National Education Policy 2020, which focuses on the importance of digital technology for the teaching-learning process from school level to further education.

UGC has defined 'blended learning' as the combination of digital learning with traditional face to face learning. This approach provides the mixture of both, online and offline learning, in the simplest form. The primary argument raised by UGC for blended learning is that this approach is more student centric, and more effective. It provides greater flexibility at the student level; improves learning skills and satisfaction, enhances interactions among students and teachers, etc. (UGC Concept Note 2021). Further, blended learning provides the 'best of all worlds'. With respect to the evaluation and assessment, the proposal suggests that the exams under both learning modes can be conducted online using various innovative evaluation strategies like open book examination, online quizzes, spoken examination, etc.

In addition to this blended learning approach, UGC has also allowed higher educational institutions to teach 40 per cent of any course in online mode through Study Webs of Active-Learning for Young Aspiring Minds (SWAYAM), while the rest is to be taught offline. UGC also seeks to promote Massive Open Online Course (MOOC), which aims to provide online education to students via web. It tries to make the online education system more efficient as compared to the

classroom education by removing time and location constraints. Kerala's Higher Education Minister R. Bindu critically raises concern regarding the UGC proposal of blended teaching. She argues that instead of increasing the flexibility level at the student end, this approach will further exacerbate the digital divide in terms of access to Information Technology and communication devices and internet connectivity among students. This will pose a big challenge, especially, for the marginalised section of students in country (The Hindu, May 31, 2021).

Many teachers in the academia opine that blended teaching cannot not provide adequate replacement for offline teaching due to the lack of resources, infrastructure and equipment among the majority of students in India. The quality of education being imparted in the on-campus environment can be in no way given in the online mode as the interaction of students with peers and with teachers in the campus goes beyond the books and syllabus.

Apporvanand (2021) argues that the MOOCs, which are seen as the potential replacement of offline teaching, have even failed to persuade the US universities to accept them. He points out that UGC's blended teaching proposal, especially in the name of providing flexibility to students, needs to be seen from the teachers' perspective too. As the space of higher education institution is not only for students but teachers as well, they cannot be only seen as mere knowledge providers but knowledge creators as well. Imparting holistic knowledge to students is only possible in an open and friendly environment where students learn to think and can have dialogue with teachers.

In the context of the government's concerted efforts to leverage technology as the main tool of learning process in higher education with the aim to achieve the three main principles of Education Policy i.e., accessibility, equity and quality, the main objective of the paper is to assess the impact of online learning of students in terms of these three principles. The online survey of around 200 undergraduate students of Delhi University has been conducted for this purpose. Delhi University

is the one of the most reputed and largest universities of higher education in India, with around 40,000 students enrolled in some 91 constituent colleges spread across the city. For more than a year now the classes have been online and the university has experienced various aspects of virtual learning ranging from live online classes, webinars, workshops, audio and video lectures, recordings, open book examination, quizzes, online extra to co-curricular activities etc. Thus, Delhi University serves as a fertile sample space for such a survey. The assessment will help us to get a macro-picture of how efficient and effective digital teaching has been on the learning outcomes of students in higher education. Further, this will help us to see the possible effects of the blended teaching on the learning outcome in the future course.

Data and Methodology

The study is primarily based on primary data source. The online survey of 200 undergraduate students studying in various colleges of Delhi University was conducted. A structured questionnaire was prepared, which consisted of 3 broad sections to capture student feedback. The survey was conducted using 'google form', which was shared with students via e-mail and WhatsApp. The sampling technique used to conduct the survey was convenience sampling as the questionnaire was circulated amongst female participants belonging to a women's college specifically. The study uses simple statistical tools and descriptive analysis to assess the impact of online teaching on the learning outcome.

Participant's characteristics

The profile of the study participants is shown in table 1. Out of 200 participants, around 91 percent were female, and most of the participants were aged between 20 and 25 years. Participants from various courses studying in various colleges of Delhi University took part in the survey as around

65 percent were doing BA honours course, some 24 percent were enrolled in BA programme course and so on.

Table 1: Profile of the Participants

Characteristics of the study participants	Percentage
Gender	
Female	90.8
Male	9.2
Age Group	
Between 20 and 25	52.9
Under 20	47.1
Course (Programme)	
B.A (H)	64.4
B.A (P)	24.1
B. Com	6.9
B. Com (H)	2.3
BMS	1.1
Master's	1.1
Year of the programme	
3rd	40.2
1st	32.2

2nd	27.6

Source: Based on primary data

Equity Aspect

As equity and inclusion in the higher education has been one of the cornerstones of all education policies in India, the objective is to ensure that students from all backgrounds are a part of the education system. Education provides a great tool to bridge the social, economic and gender gap in the society. However, still large gaps remain in the education system especially in the higher education segment. The section deals with whether the online mode is equitable with respect to gender, caste, class, and rural-urban divide.

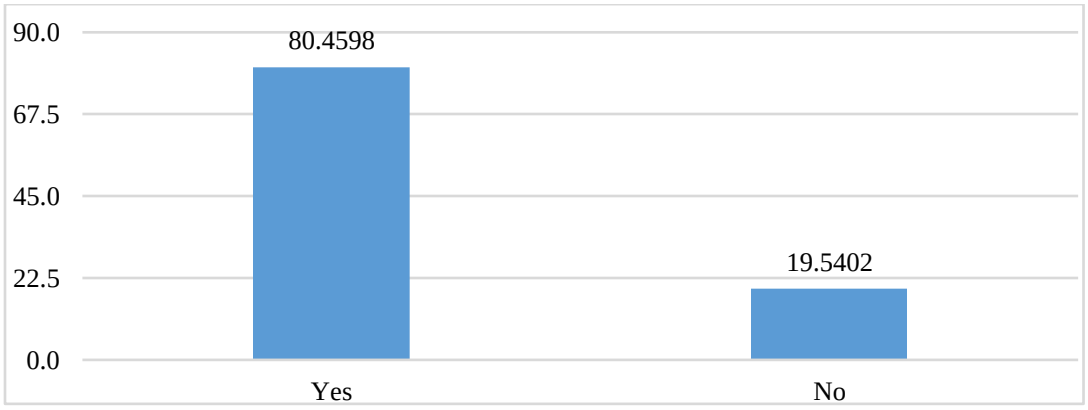
In the study conducted, over 65 percent of students belonged to the 'unreserved' category while only 28 percent of students belonged to socially disadvantaged groups (Table 2). The low representation of students belonging to the socially disadvantaged groups in the esteemed university of India reflects the social exclusion, which is still prevalent in higher education. Around 74 percent of them were living in Delhi/NCR region and resided in urban areas. The major proportion of surveyed students (52 percent) had annual family income less than 5 lakhs (Table 2). The figure 1 and 2 shows that around 81 percent of students were involved in household work, the higher percentage is since 91 percent of students surveyed were female. 65 percent of them reported that involvement in the household work does adversely affect their studies. One of the greatest disadvantages for the female students under the online education model is the increased household burden due to the existing patriarchal nature of our society.

Table 2: Equity Aspect

Social Category	
Others	64.4
Other Backward Caste (OBC)	17.2
Scheduled Tribe (SC)	11.5
Economically Weaker Section (EWS)	6.9
Current Residence	
Delhi/Delhi NCR	73.6
Not in Delhi	26.4
Area Type	
Rural	9.2
Urban	90.8
Monthly income of the family (Rs.)	
Less than 2 lac	9.2
2-3 Lac	20.7
3-5 Lac	21.8
More than 5 Lac	48.3

Source: Based on Primary data

Figure 1: Engagement in HH chores



Source: Based on Primary data

Figure 2: Does engagement in HH chores disturb the studies?

Source: Based on Primary data

Accessibility

The pandemic has changed the world in many ways, and clearly there seems to be no going back to pre-pandemic times. This holds true for the education system also, wherein the pandemic has brought revolutionary changes in the way teaching and learning is happening. In this light, the UGC proposal of blended mode could be a way out. However, it is necessary to continuously make efforts to assess which mode of teaching will be most effective to bring better learning outcomes

and one must not make haste in implementing it impulsively. This is especially true for India, where accessibility of even the basic necessities is a matter of concern. One of the major challenges to this transition to digital learning is the question of accessibility from devices like smart phone, laptop, tablets, to internet connectivity, electricity, personal space at home, etc.

According to the results of the online survey conducted by Learning Spiral, around 50 percent of the students did not have access to internet connectivity to undertake their studies online. Lack of adequate electricity and access to devices are major impediment to online learning. Similar result was found out by the Oxfam survey, which reports that according to more than 80 percent of parents with their children enrolled in government schools in Bihar, Chhattisgarh, Jharkhand, Odisha, and Uttar Pradesh, education was "not delivered" during the lockdown, as access to a device with an internet connection was a roadblock.

Access to electricity is essential to impart digital learning and as per the Saubhagya Government Scheme, around 99.99 percent of households have been electrified by 2017. However, the picture is gloomy if we look at the quality of power in most parts of India. The Antyodaya survey conducted by Ministry of Rural Development shows that around 20 percent of homes in India received electricity for less than 8 hours a day in 2017 - 18.

In our study, around 50 percent of students reported that they could not attend the online classes due to internet issues, 21 percent due to electricity issues and 10.3 percent do not have access to laptop/smart phone/tablet. Around 30 percent stated that they do not have sufficient internet connectivity to take all the classes online (see Table 3). Thus, lack of accessibility of devices, electricity and internet even for a majority of urban students are major challenges in a move towards digital literacy.

For taking the online classes, the most preferable device would be computer or laptop as it becomes difficult to do assignments, tests, or research over phones. According to Pew study in 2018, only 24 percent of Indian respondents owned a smart phone. Also, as per NSSO report on education in 2017 - 18, only 24 percent of households in India have access to internet facility. Our study shows that around 68 percent of surveyed students are attending online classes on smart phone or tablet.

Access to a separate space and a conducive environment is crucial for effective learning. According to Census 2011, around 37 percent of Indian households reside in one dwelling room. Around 42 percent of respondents stated that they do not have separate room/space to take classes online and some 18 percent of students do not have separate devices to undertake the classes (Table 3).

Table 3: Accessibility

Attending classes	
On Laptop/PC	33.3
On Smart Phone/Tablet	66.7
Reasons of not attending regular classes	
Internet Issues	50.6
Lack of Interest	49.4
Involvement in Household Chores	33.3
Electricity Issue	20.7
Unavailability of Laptop/PC/Smart Phone	10.3
Separate space in (prep.) home to take classes	

Yes	58.6
No	41.4
Separate laptop/PC/Smart Phone/Tablet to attend classes	
Yes	81.6
No	18.4
Do you use Wi-Fi or mobile data to attend classes?	
Wi-Fi	63.2
Mobile Data	36.8
Is your mobile/ WIFI data sufficient to undertake all the classes?	
Yes	70.1
No	29.9
College provided digital access to reading/study material	
Yes	77.0
No	23.0
College provided digital access to library material?	
No	50.6
Yes	49.4

Source: Based on primary data

Quality: Learning Outcome

The key focus of NEP 2020 is on providing universal quality education, which will help the nation to utilise the country's demographic dividend in the best possible way. The ability of the country to provide quality education opportunities at higher education institutes will determine the future of the young students of our country. The paradigm shift from traditional mode of learning to digital due to the pandemic has raised serious concerns over the quality of education. The new and innovative modes of learning such as online lectures on zoom, google meet platforms, open book examination, webinars, etc. has brought tremendous opportunities as well as challenges to both students and teachers. Merely moving classes on digital platforms does not make learning effective. Interaction with teachers and with peers is an important part for quality remote learning.

In order to capture the quality aspect, several questions were asked that included frequency of attending online classes, daily time spent of online classes and so on (see Table 4). Around 47 percent of respondents reported that their attendance in the online classes is more than 80 percent. Of those who are not attending the online classes, the majority stated internet issues (51 percent), lack of interest (49 percent) or involvement in domestic chores (33 percent) as some of the main reasons. Around half of the students (48 percent) reported the live lectures as the most preferred mode of learning. When asked about the satisfaction from the online learning, some 41 percent were partially satisfied and 28 percent not satisfied. Since online education does not provide a chance to build a rapport with teachers, it might result in students showing lack of interest in the classes. It has been more than one year of online learning process for students but still over half of the students (52 percent) stated that they have been able to partially adapt this new mode of learning and the majority (82 percent) prefers offline learning (figure 3).

With the aim of NEP 2020 to revamp the education system in all respects, especially integrating technology with teaching and learning, there is a pressing need to take into account the quality

aspect related to it. The greater use of technology in education might result in reduced human interface, which could have adverse impact on quality. In our study, around 78 percent students reported that their academic performance was adversely impacted in the online mode of teaching. 61 percent of surveyed students reported that their college workload has increased massively due to online mode, therefore the time spent on self-study has been less than 2 hours for the majority of students (56 percent) and 54 percent stated that on an average they spend 3 - 6 hours on online classes.

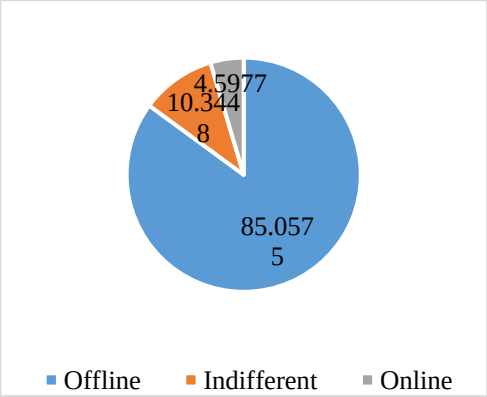
Table 4: Quality

Frequency of attending classes	
More than 80percent	47.1
50percent-80percent	36.8
20percent-50percent	12.6
Less than 20percent	3.4
Which online mode of teaching do you prefer the most?	
Live Lectures	48.3
Recorded Lecturers	31
Sharing Study Materials	19.5
Podcasts	1.1
Are you satisfied with the online classes?	
Partially Satisfied	41.4
Unsatisfied	27.6

Satisfied	14.9
Partially Unsatisfied	13.8
Indifferent	2.3
Have you been adapted to online learning?	
Partially	51.7
Yes	27.6
No	20.7
Online classes improved the academic performance	
No	78.2
Yes	21.8
Daily time spent on self study	
Less than 2 hours	56.3
2-4 hours	36.8
More than 4 hours	6.9
Average time spent for studies online	
3-6 hours	54.0
Less than 3 hours	24.1
6-8 hours	19.5
More than 8 hours	2.2

Source: Based on Primary data

Figure 3: In which mode do you learn and understand better?



Source: Based on primary data

Conclusion

From the above analysis, one cannot deny that there are massive challenges attached to digital learning, especially with respect to accessibility, equity, and the quality aspect of education. With the existing digital divide in India, the UGC proposal of blended mode where digital learning will become an integral part of the higher education system, this could make education all the worse, and exclusionary in nature. The blended mode of education is the future for the Indian education system but the process should be slowed down until policymakers' address key challenges with respect to digital learning. All the literary work suggests that inadequate public funding has serious consequences on access to education. In the aftermath of Covid-19 pandemic, there is a need for the education sector to cope with the paradigm shift promised in the NEP 2020. However, this would require a sound budget allocation. Presently, India spends just 4.6 percent of its total GDP on education. The National Policy on Education 1968 recommended the spending on education to

be 6 percent of GDP, which has been reaffirmed by the NEP 2020. Thus, it becomes pertinent to spend at least 6 percent of GDP in education as promised in NEP 2020, which will help India to tackle the existing structural as well as new emerging challenges in the education system. For this, urgent preparation is needed in terms of improving the digital infrastructure, reducing the inequity in education in terms of socio-economic gaps, addressing the issues of quality of learning outcome, and providing essential resources like separate devices, high-speed internet connectivity, separate space, etc. to students.

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