

OPPORTUNITIES AND CHALLENGES IN IMPLEMENTING BLENDED LEARNING DURING COVID-19 PANDEMIC IN RURAL AND TRIBAL REGION OF NORTH MAHARASHTRA

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ABSTRACT

The Covid-19 pandemic has introduced new challenges in the educational environment, The educational institutions were left with no choice but to implement blended learning. Blended learning brings several challenges like lack of infrastructure, unavailability of trained teachers, poverty and digital illiteracy. This research paper identifies the challenges and opportunities to implement blended learning in tribal and rural regions of India.

Keywords: *Pandemic, Blended learning, Covid-19, Digital, Rural*

1. INTRODUCTION

India experienced the first wave of Covid-19 in March 2020, within just two months the infection spread all over the nation registering more than one lakh cases per day[1]. The Government was left with no choice but to enforce the nationwide lockdown. The lockdown introduced difficulties in implementing the teaching-learning process as the technological infrastructure of e-learning is not very promising in the country, especially in less developed regions [2]. Abrupt introduction of blended learning surprised both teachers and students, it introduced many challenges such as unavailability of internet connectivity, lack of bandwidth, lack of digital literacy.

Initially it was assumed that the pandemic would end in a few weeks hence the majority of teachers and students were not taking blended learning much seriously and were waiting for schools and colleges to reopen. Since it was realised that covid-19 pandemic was not going to end soon, online teaching remained the only option to continue education. Universities and colleges conducted various webinars, workshops and faculty development programs to train the teachers for blended learning hence within a few months the teachers were well prepared to adopt the blended learning, however the problem still existed as there was no such training for the students.

The situation put additional burden on the teachers not only to teach online but also train the students while teaching, which proved to be a challenging task as several students were complaining about technical issues such as quality of audio, quality of video during the lecture, this created a chaos and many teachers struggled to handle this situation.

2. TOOLS FOR BLENDED LEARNING

Talking about the Indian tribal region, there are comparatively less awareness about the information and communication technologies hence there are limited resources available for blended learning, online meeting platforms like Zoom, Google meet are commonly known, but it is observed that other platforms like Microsoft team or Cisco WebEx are not much known in the backward region of the country. Talking about the LMS, Unlike the urban area there is less awareness about using the LMS, however there are quite a few teachers especially belonging to science faculty use LMS such as Google classroom but again as discussed earlier there

has been an issue of technical limitation and infrastructure due to which it wasn't feasible to use LMS in pre pandemic period.

3. RESEARCH METHODOLOGY

- 1) **SWOC Analysis:** The SWOC (Strength Weakness Opportunities and Challenges) method has been adopted to analyse facts in this research.
- 2) **Primary and Secondary data:** The study is based on both primary and secondary samples. The primary samples are collected using online questionnaires using Google forms targeting fifty higher education teachers in the Nandurbar district. The secondary data has been collected through research articles, books and website articles.
- 3) **Sampling Method:** The area of sample collection is selected as Nandurbar district which is a well-known tribal district in Maharashtra. The population of Nandurbar district as per census 2011 is over sixteen lakh [3] majority of Nandurbar district population is tribe and follow traditional rituals, people living in small villages are vastly dependent on tehsils and district especially for higher education. The researcher has selected Nandurbar district as an area for the research as it is one of the less developed areas in the country. All the 50 samples are collected using simple random sampling methods which include Professors, Associate professors and Assistant professors from Arts, Commerce and Science degree and post degree colleges.
- 4) **Analysis and Interpretation:** The sample data has been collected considering SWOC analysis, the data has been analysed using statistical package SPSS and Microsoft Excel. Both Descriptive and Inferential statistical analysis are applied on the data.

4. OBJECTIVES AND HYPOTHESES OF THE STUDY

1) Objectives of the study:

- a) Understanding opportunities in blended learning in tribal regions of Nandurbar.
- b) Estimating future challenges to blended learning in tribal regions of Nandurbar.

2) Hypothesis of the study :

- a) H₀: Tribal and rural students are not adaptive towards blended learning.
- b) H₀: Lack of technical infrastructure does not affect blended learning in tribal regions.
- c) H₀: There is no significant difference between online and offline teaching in tribal regions.

5. ANALYSIS AND INTERPRETATION OF DATA

Hypothesis 1:

H₀: Tribal and rural students are not adaptive towards blended learning.

H₁: Tribal and rural students are adaptive towards blended learning.

When Chi-square test is applied on the data, following results are obtained,

Tribal and Rural Students are Adaptive Towards Blended Learning			
	Observed N	Expected N	Residual
Yes	37	25.0	12.0
No	13	25.0	-12.0
Total	50		

(Table 5.1 showing observed and expected frequencies)

Test Statistics	
Tribal and Rural Students are Adaptive Towards Blended Learning	
Chi-Square	11.520 ^a
Df	1
Asymp.	<.001

Sig.	
a. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 25.0.	

(Table 5.2 showing test statistics and p-value)

The p-value is less than the level of significance which is 0.05, this concludes that the H0 is rejected.

Hypothesis 2:

H0: Lack of technical infrastructure does not affect blended learning in tribal region

H1: Lack of technical infrastructure affects blended learning in tribal region

	Observed N	Expected N	Residual
Yes	41	25.0	16.0
No	9	25.0	-16.0
Total	50		

(Table 5.3 showing frequencies about technical barriers to blended learning)

Does Technical barrier affect online teaching	
Chi-Square	20.480 ^a
Df	1
Asymp. Sig.	<.001
a. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 25.0.	

(Table 5.4 showing test statistics and p-value)

The p-value is less than the level of significance which is 0.05, therefore H0 is rejected.

Hypothesis 3:

H0: There is no significant difference between online and offline teaching in tribal regions.

H1: There is a significant difference between online and offline teaching in tribal regions.

	Class Type	N	Mean	Std. Deviation	Std. Error Mean
Teaching Efficiency	Offline	50	4.38	.725	.103
	Online	50	1.80	.857	.121

(Table 5.5 showing group statistics)

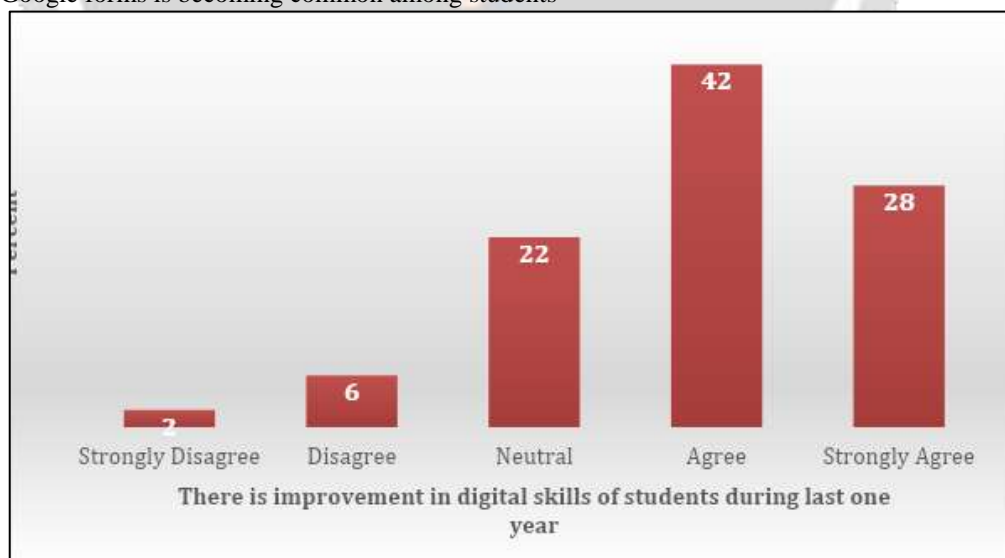
		Levene's Test for Equality of Variances		t-test for Equality of Means							
		F	Sig.	t	df	Significance		Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						One-Sided p	Two-Sided p			Lower	Upper
Teaching Efficiency	Equal variances assumed	.003	.958	16.247	98	<.001	<.001	2.580	.159	2.265	2.895
	Equal variances not assumed			16.247	95.390	<.001	<.001	2.580	.159	2.265	2.895

(Table 5.6 showing independent sample t-test and p-value)

The p-value is less than the level of significance which is 0.05, therefore H₀ is rejected.

6. SWOC ANALYSIS OF BLENDED LEARNING

- 1) **Strength:** Online teaching is relatively new method of learning for students belonging to rural and tribal region, through several years of educational history the students have hardly seen innovative teaching, availability of modern teaching aids is rare scenario, hence the students are quite curious about learning online with the help of smartphone, aspirants find online learning interesting over traditional classroom teaching, the online teaching platforms like Zoom and Google meet offer features to introduce multimedia during lectures gives an advantage to the teacher to explain the concept in more understanding way. Another advantage that online teaching offers is, now students can ask questions without hesitation and they can interact with the teacher even after school/college hours. It has been observed that the students in rural and tribal areas interact frequently with the teachers using online teaching platforms and they also provide their feedback about the online lecture.
- 2) **Weakness:** Although the blended learning seems interesting there are some barriers that prohibit seamless sessions, according to a survey done by Times of India in Oct 2020, India ranks 131 out of 138 in internet speed and connectivity, this situation is even worst in tribes where people struggle for basic facilities like drinking water and electricity, hence it will be very optimistic to expect good internet connection in such areas. An online lecture of one hour consumes 500MB to 1GB of data, even if half of the offline lecture timetable is implemented online, it will be neither affordable nor feasible for the students. Talking about expenses, most of the mobile network operators charge rupees 150 to 300 per month for 1GB per day, therefore internet expenses for online learning seems unaffordable for most of the students living in rural and tribal regions.
- 3) **Opportunity:** According to a report published by Digital Empowerment Foundation, The rate of digital literacy in India not more than 10%, considering the population of the country this number seems disappointing but, is also has been observed that due to Covid-19 pandemic situation digital cash, e-learning, online shopping, 'work from home' culture has been adopted. This certainly has boosted the movement of improving digital literacy in the country. Given no other options people who never used smartphones are using it for daily tasks, this can be seen as a positive outcome. Students belonging to rural and tribal regions are observed to be using computers and smartphones for posting feedback, sharing screens, uploading assignments and filling up responses using Google forms is becoming common among students



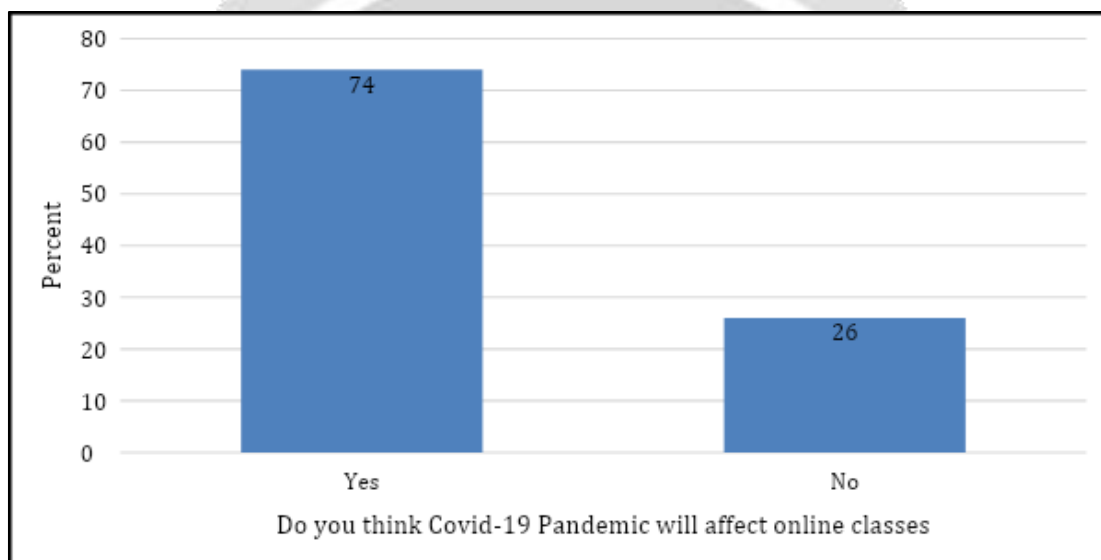
(Chart 6.1 showing graphical representation of frequency of responses)

- 4) **Challenges:** India has been affected badly due to covid-19 pandemic, this not only damaged the economy but also affected the physical and mental health of people. After second wave of coronavirus which started in March 2021 thousands lost their lives, jobs and business, the pick of the wave usually lasts for 2 to 3 months but its impact remains for a longer period and under this

circumstance it becomes difficult to continue education as along with the students many teachers also has got infected by the virus, according to World Health Organization there is a strong possibility that Coronavirus will stay for longer duration and the world is been advised to live with the virus hence it is really challenging to keep students attracted toward online classes. Below data shows how the majority of higher education teachers are worried about the future threat of pandemic affecting online education.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	37	37.0	74.0	74.0
	No	13	13.0	26.0	100.0
	Total	50	50.0	100.0	
Missing	System	50	50.0		
Total		100	100.0		

(Table 6.1 showing frequency of responses)



(Chart 6.2 showing graphical representation of frequency of responses)

CONCLUSION

We have to accept the fact that covid-19 pandemic is here to stay for a longer period, each wave of the pandemic brings new challenges to the world but at the same time we have been getting experiences of dealing with the pandemic, the experts in the education fields are working for the betterment of the blended learning.

During the last one and half years of the pandemic the largest number of webinars, workshops, and faculty development programmes has been organized by educational institutions in the country discussing possible solutions of improvements in teaching methodology, students psychology, technical skill improvements, and knowledge building.

There is a certain hope that even if the pandemic situation settles down we have to be prepared for blended learning and we must improve it to deliver hassle-free and quality oriented teaching. Online teaching should become equally effective for both teachers and students if not better than traditional offline classroom teaching.

There are many challenges in front of teachers working in rural and tribal areas regarding blended learning which will require a strong support from the state and central government by updating educational policies and providing financial aids to especially backward areas.

There is also a requirement of support by the local community to encourage and motivate the students for attending online classes. We may even see student motivation campaigns regarding online classes. Hope is the word that the whole world is relying on and India is no different.

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