

Blended Learning: Need Of The Day - A Study From The Perspective Of Higher Education Students Of Assam

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ABSTRACT: The world in the recent past has witnessed a rapid growth and spectacular development in the area of Information and Communication Technology (ICT). Whereas in India, states like Assam were not fully utilizing the possibilities of such enhancements in technology and continued with traditional face to face teaching-learning method throughout these years. However, the ongoing Novel Corona Virus pandemic has compelled all the educational institutions worldwide to switch over and find an alternate method which could fulfil the student's expectations in a better and efficient way followed by the closure of educational institutions globally. Amidst this pandemic situation Blended Learning has emerged as an innovative teaching technique which is gaining more popularity and stands to give full freedom, own pace and better learning opportunities to students. This paper aims to study the perspectives of higher education students of Assam regarding the implementation of Blended Learning (BL). For this purpose, a self-structured questionnaire was prepared and circulated among 150 students of various disciplines in the higher educational institutions of Assam and stratified random sampling technique was used for data collection. After analysis of the collected data, the researchers have found that majority of the students were comfortable and willing to explore the future possibilities and wider implementation of such an innovative platform. Further the researchers carried out an in-depth study and detailed analysis regarding the prospects and challenges of implementing Blended learning considering its various dimensions along with the latest guidelines of National Education Policy (NEP) 2020 and found it as an advanced and effective method for teaching-learning in the higher education of Assam in near future. With the 5G network services are expected to roll out, they further suggested Directorate of Higher Education (DHE), Assam to incorporate Blended Learning courses in the provincialized colleges of the state by giving adequate consideration to the digital divide and existing socio-economic divisions.

KEY WORDS: Blended Learning, ICT, Higher Education, NEP2020, Assam, India

INTRODUCTION

Social change over a period of time is always a welcome. Since the inception of human society, considerable changes are taking place and these positive changes brings progress in the society. At present under the current global scenario, the traditional society is showing a tendency of shifting towards modern society – a society driven by technology. Innovative services of Information and Communication Technology (ICT) brings more or less a new look to every society. Likewise in India, ICT touches each and every sector of developments. This new wave has also knocked the door of educational sector and is offering a favourable environment, which meets most of the expectations of learners by providing a better learning experience. To fulfil the demands of learners, teachers must be fully trained with new pedagogical techniques, digital skills and up-to-date subject knowledge which can enhance the quality of education. Here, it is pertinent to mention that Information and Communication Technologies have emphasized on self-learning, but as the students are not mature enough to acquire quality self-education, they need guidance from some professionals and experienced people like teachers and subject experts. So, though ICT has set a new trend in the modern educational system in India, yet the face to face (f2f) teaching in classroom has its own merits. Human values and social skills such as unity, co-operation, sympathy, helpfulness, love, affection and understanding are better learned in classrooms in the midst of other students, peers and teachers. But when we consider the student's choice, still many of them want to go with ICT supported teaching alongside traditional method of face-to-face teaching.

Youths of higher educational institutions are often influenced by their peer groups. They develop their personality skills while interacting with peer mates and co-students not only in classrooms but also in places like playground, canteen, library and during cultural events. High level of competitiveness among students is more possible in face-to-face teaching. In classroom environment, teachers play a pivotal role in maintaining discipline which is comparatively less in other modes of teaching-learning. Because of all these reasons, in Assam traditional teaching-learning method is more popular in higher educational institutions. Though it is preferred and popular, traditional method of teaching is not free from criticism. Some short comings are cited here specially pertaining to higher education.

- Increasing Trend of Student Enrolment:

The number of students getting enrolled for higher education is increasing day by day in the world. Likewise in India, the gross enrolment increased from 25.8% (2017-18) to 26.30% (2018-19) according to a wide survey carried out by All India Survey on Higher Education (AISHE). (<https://aishe.gov.in/aishe/home>).

- Teacher-student ratio imparity compared to other countries:

The ideal ratio between teacher and students in higher education should be 1:15. But in India it is only 1:24, whereas in Brazil and China it is 1:19, Sweden and Russia it is 1:12 and 1:10 respectively. This ratio can adversely affect the quality education in India. (India Today Survey, 2019).

- Lack of trained teachers:

Some teachers are not delivering lectures on basic norms and not giving adequate efforts to update their knowledge about modern technologies in turn can't mould students to meet the challenges of modern world. Ambiguities also exist in their teaching practices.

- Evaluation system is defective:

In the traditional system of education attendance of students is compulsory. Due to any reason if a student fails to attend the college for a long time, he/she is not allowed to appear for the term end examination. This results in that student losing entire academic year. Traditional system gives more importance on physical appearance in college. Existing evaluation system of traditional method is more or less based on rote learning followed by the marks obtained in the term end examination.

The above-mentioned shortcomings of traditional educational environment can be overcome by utilising the possibilities of web-based learning and adapting the latest technologies. Blended learning or Hybrid Learning is a technique that combines the best of online learning and face-to-face instruction for the purpose of enhancing learning. It is a strategy of education where multiple methods can be used to help the students and teachers which makes teaching-learning method more effective. Blended Learning designates the range of possibilities presented by combining internet and digital media with established classroom forms and requires the physical co-presence of teacher and students (Norm and Friesen ,2012).

Blended Learning help students to learn according to their own pace, convenient time and interest. It gives students an opportunity to attend classes in real world classroom, where they can learn their subjects with the help of text books and additionally can refer internet, online discussions and collaborative software for better clarification and understanding of the concept. This helps a lot in stress relief while learning. Digital world makes education more accessible to students of higher education. They can also use various apps and have more flexibility in their learning. Blended learning opens up a wide platform and provides better opportunities to the students to enjoy their academic life.

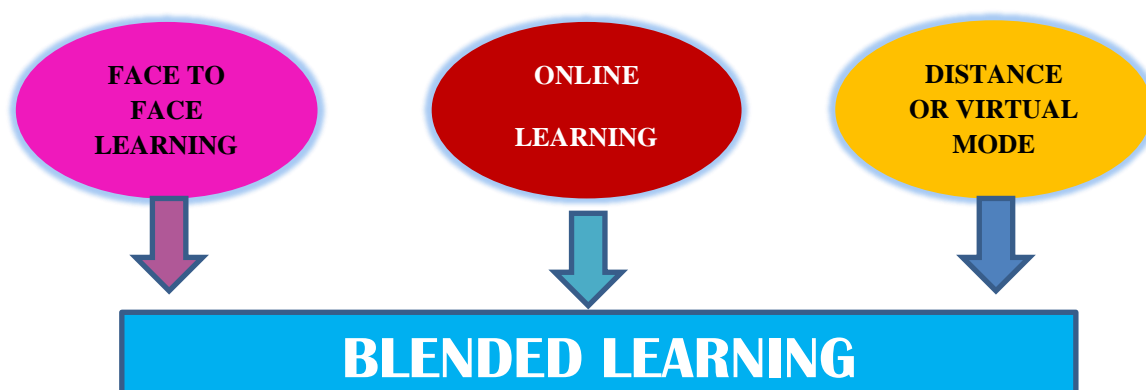


Fig 1: Schematic diagram of Blended Learning.

Various models that can be followed in Blended Learning are listed below:

1. **Face to face driver model:** Face to face driver model is a traditional method where in offline classes students are guided and supported by the teachers for their online courses.
2. **Rotation model:** In rotation model students rotates between self-paced online learning and classroom instruction. Here schedule and module are fixed and planned but student can finish their syllabus in their convenient time.
3. **Flex model:** In t this model of Blended Learning most of the instruction is delivered in online mode with the support of teachers in the classroom if required.
4. **Online lab model:** In this model students can learn entirely in online mode but it brings students together in a traditional class room setting to access the online lab where they can complete their syllabus under the supervision of trained teachers.
5. **Self- blend model:** In this model individual student can attend traditional classroom, side by side they can continue their learning through online courses offered remotely.
6. **Online Drive model:** Here almost all instructions are given via online mode. In areas where further clarifications are required student can request for face-to-face online guideline sections from subject teachers.

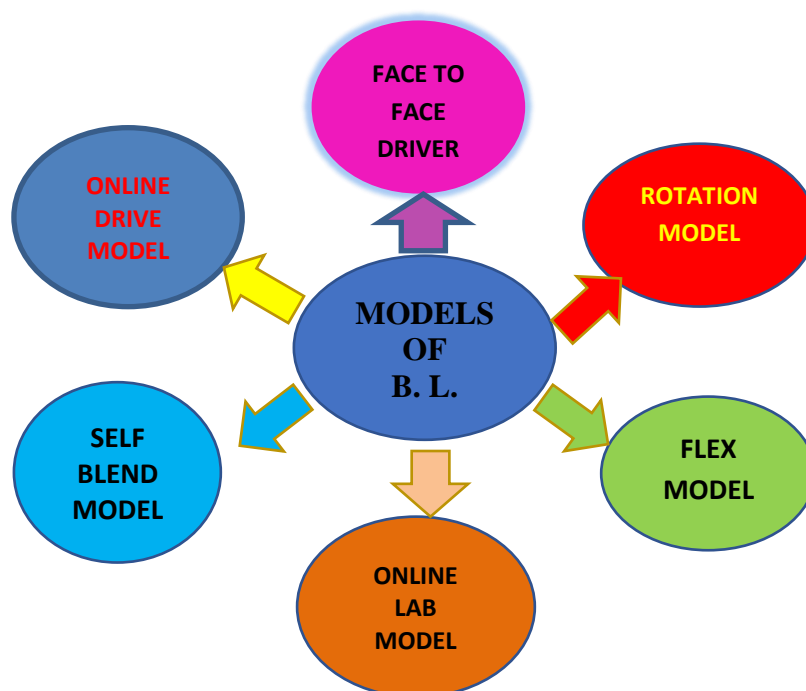


Fig2: Models of Blended Learning.

BLENDED LEARNING POSSIBILITIES IN THE HIGHER EDUCATION OF ASSAM

Due to advancements in technology now the world has become a ‘Global village’. India is also a part of this Global village and is making use of ICT in various sectors. To make every citizen digitally empowered the Govt. of India has introduced Digital India Campaign in the year 2015. Govt. of Assam also encourages the Digital India Campaign

to integrate ICT in educational sector. But the Govt. of Assam realizes that without giving proper training to teachers, students alone will not be able to practically implement ICT. Therefore, some suitable software i.e., Free and Open-Source Software (FOSS) is suggested for inclusion in curriculum (SCERT draft 1.0,2019). Probably this is one of the great steps of Assam's Educational System to enter in the digital world. National Curriculum Framework (NCF), 2005 also introduced ICT in teacher's education. The National Education Policy (NEP), 2020 tried to accentuate the positive aspects of using Technologies in education. NEP 2020 aims to expand and explore the possibilities of Open and Distance learning courses which is expected to play a significant role in the increasing Gross Enrolment Ratio. They are considering online courses, digital repositories and credit-based recognition of Massive Open Online Courses (MOOCs) as various measures to maintain the high quality compared to the class room teaching (NEP,2020).

Assam is popularly known as the gateway to the North East of India. Total population of Assam was 3,12,055,76 as per 2011 Census report and total literacy rate was 72.19 % (www.assam.gov.in). New methods and teaching techniques needs to be widely adopted in Assam which gives best learning experience to students in order to prepare them to lead a dignified life in this competitive world. Regarding the implementation of Blended Learning technique in the higher education of Assam, it is seen that Assam is still lagging behind in technology. However, the lockdown followed by Corona virus pandemic has explored the possibilities of a new path of learning, which is popularly known as the Online mode of learning. It was very helpful during the lockdown period where teachers provided proper assistance and guidance to students. After lockdown those students who felt the need of physical presence of teachers in classroom, attended face to face classes in random order while observing covid norms. This method what they have followed is nothing but Blended Learning. Hence this lockdown has given an opportunity for all educational institutions to transform from traditional to flipped classroom, where the teachers deliver and record their lectures, prepare videos and shared with students during online sessions. Students can listen/ watch the video in their own convenient time. Blended Learning opens up this new environment where students can learn without stress. In the beginning most of the teachers and students of Assam were unaware of the actual Blended learning strategies. Gradually now they have started to adopt new techniques regarding Blended Learning.

Though it is quite late for the stakeholders to wholeheartedly implement this strategy in educational system, the required infrastructure facilities such as hardware, high speed internet connectivity and a better learning environment in rural areas must be made easily available for the effective implementation of this strategy at the earliest. UGC has already given directions to implement 40% of teaching through online method for any courses. If this is implemented learning in higher educational institutions will mark a new turning point.

OBJECTIVES OF THE STUDY

1. To study the awareness of students of higher education about the strategy of Blended Learning.

2. To study the attitudes of students towards implementation of Blended Learning in higher education.
3. To study the student's perspectives by gender regarding the usability of Blended Learning in higher education.

LITERATURE SURVEY

The researchers carried out a detailed survey of the recent developments regarding Blended Learning and also studied various related literatures of the past decade to identify the prospects and challenges of implementing this innovative technique for higher education students. These studies were undertaken to analyse students' perception towards traditional face to face learning and web based online learning considering various aspects and factors contributing to its effective implementation in the form of an integrated version of both these methods which is called Blended Learning.

Dhanya Krishnan (2011) carried out a research on the effect of Blended Learning strategy on higher order thinking and learning science among secondary education students considering various aspects such as problem solving, learning science, science process skills, science achievement and learning style. After analysing the data using descriptive and inferential analysis, the author suggested that Blended Learning strategy is effective in developing critical thinking, problem solving, science process skills of students.

Owston and Murtha (2012) studied the pros and cons of Blended Learning. The perception of students was assessed in four areas like overall satisfaction with Blended Learning, convenience afforded by Blended Learning, sense of engagement in their blended course, and views on learning outcome. After detailed study they found that blended courses are more convenient and engaging. For better implementation they further suggested that institutions when taking up Blended Learning should consider offering students a choice of whether to enrol in blended or fully face-to-face course sections where feasible, mostly in those subjects where students faced difficulties.

Jennifer M. Dela Torre (2013) conducted a study regarding the learner's perception on Blended Learning in terms of different learning styles. The author observed that participants perception on Blended Learning varied among active-reflective and visual-verbal learners but did not significantly vary among participants identified as sensing-intuitive and sequential-global. Further the author suggested that teachers should give enough consideration to particular students learning style in multiple dimensions including design, implementation and evaluation of Blended Learning in near future.

Tara S. Nair (2014) carried out a study to find out the effect of blended learning strategy on achievement in biology and social and environmental attitude of students based on demographic variables. For analysis of data inferential statistics viz. analysis of covariance was applied. The study came to a conclusion that

Blended Learning strategy develops skills to enjoy the experimental phenomenon through various pedagogical practices.

Jeanne Yuet Ching Lam (2015) defined blended learning as a new revolution in the educational sector as it connects learning in and beyond classroom (concept of flipped classroom).

A. Bryan and K.N. Volchenkova (2016) elaborated the concept of Blended Learning in detail and in their article suggested that blended learning can be effectively implemented for the higher education system in Russia.

Kintu and others (2017) analysed the effectiveness of a Blended Learning environment by considering design features as independent variables and learning outcomes as dependent variables. After multiple regression analysis they found Blended Learning has better student satisfaction depending on parameters like quality of technology, online tools and face-to-face support along with student characteristics such as their attitudes and self-regulation.

Dezubian (2018) studied several parameters including implications and possible future guidelines for Blended Learning in the higher education and suggested that even though Blended Learning use modern teaching technologies, the future implication is widely depending on the relation between the utilization of modern communication technologies and to the aspects of particular students thought processes.

Owston et al. (2019) studied the success rate of Blended learning and found that BL depends more on the high-quality web-based learning (80%) integrated with face-to-face teaching (20%).

Anthony, B (2020) provided more insights into the theoretical foundation of Blended Learning and suggested that BL practices should encompass face-to-face, information resources, quiz, assessment, and feedback mechanism for students and ICT, pedagogy, content, and up-to-date knowledge of teachers for adoption and implementation in higher education.

Adel and Dayan (2021) proposed a design for Blended learning activities and explained how to blend successfully the contemporary digital technologies with traditional method of learning for the development of students in New Zealand.

Over the years various surveys had been conducted regarding Blended Learning technique. All of them have suggested and highlighted the importance of timely and effective implementation of technology in the educational sector especially in the area of higher education.

METHODOLOGY

For the present study a descriptive research design has been applied. The sample of the study consists of 150 students including male and female from both under graduate and post graduate courses of arts, science and commerce streams under different universities of Assam including urban and rural areas. In this study, stratified random sampling technique was used to collect the data.

TOOL USED

For collection of data an online questionnaire (self-structured) was designed on Google form and circulated to 270 students in the colleges and universities of Assam, India. Along with the questions basic demographic information like name, age, subject, stream and institution name were also collected. Some of the research scholars of Tata Institute of Social Sciences (TISS, Guwahati), Dibrugarh University and Guwahati University were also included. Same questionnaire distributed to all the respondents irrespective of their status and gender. As some of the questionnaires are found filled incomplete, these questionnaires were rejected. Out of 270 only 150 questionnaires are considered for analysis.

FINDINGS AND ANALYSIS

a) Gender and Age wise distribution of sample

Gender	Number	%
Male	38	25.3
Female	112	74.7
Total	150	100.0

Age group	Number	%
18 - 20	55	36.7
21 - 25	81	54.0
Above 25	14	9.3
Total	150	100.0

Table1: Distribution of sample by gender

Table2: Distribution by Age group

It can be observed from the table1 that, out of 150 samples majority of the respondents were female i.e. 112 (74.7%) and 38 (25.5%) were male respondents.

Samples collected by stratified random sampling technique, out of which 55 i.e. 36.7% fall in the age group of 18-20 years, majority of the respondents i.e. 81 (54%) belong to the age group of 21-25 years and rest of the respondents in between the age group of 25 years and above.

b) Awareness about Blended Learning

Regarding the 1st Objective of present study, table-3 below provides the data regarding the awareness level of students with regard to Blended Learning.

Awareness	Number	%
Highly Aware	115	76.7
Aware	18	12.0
Little Aware	17	11.3
Total	150	100.0

Table-3 Awareness about Blended Learning

As it can be observed from the above table, majority of the students claimed their awareness about blended learning. The cumulative total of the rows 2 and 3 in the above table gives an indication that a significant number of students (88.7 %) are aware of blended learning.

respondents have claimed that they have experienced about this type of learning method earlier. Whereas 17(11.3%) found little aware about Blended Learning. Hence, it is prominent to create more awareness about Blended Learning among the students of Assam.

c) Attitude of Students towards different Teaching-Learning Process

Regarding the 2nd Objective the investigators has chosen two variables such as: attitude of students towards different learning methods and attitude towards the rules applied by the College/University (offline).

The preference of learning method by the learners is usually influenced by the factors such as subject areas, educational philosophy, teacher's ability and methodology of teaching, time frame, examination set up and grading system. The preference of teaching methods by the respondents are presented in table-4.

Sl. No.	Methods	Respondents	
		No.	%
1	Online	32	21.34
2	Face to Face	55	36.66
3	Blended	63	42.00
Total: 150			100

Table-4: Showing Attitude of Students towards different learning methods.

It can be observed from the above table that most of the students prefer Blended Learning. Respondents have claimed their preference on Blended Learning. Whereas 32(21.34%) numbers of students prefer online and 55(36.66%) prefer face to face learning method.

d. Attitude towards the Traditional Educational System

Table-5: Attitude towards the rules applied by the College/University (offline)

Sl. No	Variables	Respondents	
		No.	%
1	Daily attendance	45	30
2	Time Bound	46	30.66
3	Strict Discipline	24	16
4	Evaluation system	35	23.34
Total		150	100

Table-5 represents the views of students regarding present scenario of education system. Maximum students (30.66%) have objection regarding time bound educational system and 30% do not like the daily attendance system in the colleges of Assam. 23.34% do not like the evaluation system where as 24% have issues regarding strict discipline in the college.

e. Future Scope of Blended Learning

Table -6: Blended Learning as a promising method of learning for higher education

Sl.No	Respondents					
	Yes		No		Not sure	
	No.	%	No.	%	No.	%
1.	56	37.33	34	22.66	60	40
Total: 150						

Effectiveness can be measured by the success rate of the respondents. Respondents were asked about their perception regarding blended learning as a promising learning method for higher education. They were asked the question “Do you feel Blended Learning as a successful method for higher education?”. The table given below represents the different kinds of activities done by the users along with their success rate.

f. Solution to overcome Learning Loss During Pandemic

Sl. No.	Blended learning is the way to overcome learning losses during a Pandemic	Respondents	
		Numbers	Percentage (%)
1	Yes	68	45.34
2	No	28	18.60
3	May be	54	36.00
Total		150	100

Table 7: Ways to overcome Learning Loss during Pandemic

Covid-19 Pandemic has prompted most colleges around the state to shift towards online education. Implementations of Information and Communication Technology (ICT) have contributed a lot in emergence of innovative and smart education methods for students. Many colleges shifted more towards online activities, to let teaching-learning process to continue despite the college closures. Students were asked about their perspective towards blended learning during covid-19 pandemic and 45.34% students agreed on it.

g. Students Perception towards Blended Learning

3rd objective: To study the student’s perspectives by gender regarding the usability of Blended Learning in higher education.

Level of perception by gender

Level of Perception	Score Range	Number of Students	Total Percentage	Male		Female	
				N	%	N	%
High	10-12	48	32.0	12	31.6	36	32.1
Medium	7-9	62	41.3	18	47.4	44	39.3
Low	0-6	40	26.7	8	21.1	32	28.6
Total		150	100.0	38	100.0	112	100.0

Table 8: Level of perception by gender

Difference of Perception by gender

Level of Gender	N	Mean	Std. Deviation	Mean Rank	Sum of Ranks	Z	P-value
Male	38	8.2895	2.24099	80.50	3059.00	-.828	.408
Female	112	7.9107	2.37689	73.80	8266.00		

Table 9: Difference of perception by gender

From the table-8 & 9, it is observed that outcome of all the questions showed a positive approach from students towards Blended learning. Hence it can be concluded that perception of students towards Blended Learning process is quite positive and there is no significant difference of perception by gender.

h. Level of Satisfaction of Blended Learning by Gender

Level of Satisfaction	Score Range	Number of Students	Total Percentage	Male		Female	
				N	%	N	%
High	33- 40	30	20.0	5	13.2	25	22.3
Medium	27- 32	86	57.3	21	55.3	65	58.0
Low	8- 26	34	22.7	12	31.6	22	19.6
Total		150	100.0	38	100.0	112	100.0
Level of Gender	N	Mean	Std. Deviation	Mean Rank	Sum of Ranks	Z	P-value

Male	38	28.13	6.469	64.53	2452.00	-1.826	.068
Female	112	29.86	5.747	79.22	8873.00		
Total	150	29.42	5.963				

Table 10: Level of Satisfaction of Blended Learning by gender.

From above table it depicts that the difference of satisfaction of Blended learning between Male and Female respondents. The mean score and mean rank of Male is 28.13, 64.53 and Female is 29.86, 79.22. Mean of male respondents is less than mean score of female respondents. The $Z=-1.826$ and $p=.068$ reveals that the difference of satisfaction level between male and female respondents is not significant.

Relationship between Perception on Blended Learning and Satisfaction on Blended Learning

	N	Mean	SD	Pearson Correlation	P-Value
Perception	150	8.00	2.34	.187*	0.022
Satisfaction	150	29.42	5.96		

Table 11: Relationship between Perception on Blended Learning and Satisfaction on Blended Learning.

It is observed in the above table that the students have their perception on Blended learning and they have expressed their satisfaction level on services of blended learning. Mean score of perception of the students is 8.0 and $SD=2.34$. Mean score of Satisfaction score is 29.42 and $SD=5.96$. The Pearson Correlation = .187* and $P=0.022$ indicates that the relationship between perception and Satisfaction is positively correlated and significant at 5% level.

DISCUSSION

This study was done under the perception of eight parameters of higher education students towards Blended Learning practises. From the analysis of the collected data, the researchers found that the student's approach towards Blended Learning gives new dimensions and hopes amidst this pandemic situation and strongly emphasises the importance of expeditious implementation of this technique as early as possible in the higher educational institutions of Assam. Definitely this will improve learning skills, greater access to information, improved satisfaction, learning outcomes, and opportunities to learn with others and to teach others.

EDUCATIONAL IMPLICATION

Following educational implications are recommended from the study.

1. The present study reveals students of higher education prefers Blended learning as an

effective method, but in a state like Assam where majority of the population belongs to rural area, the widespread implementation of BL faces a lot of challenges specially in the area of infrastructure development. State/District level IT co-ordination cells should be formed for centralized support, monitoring, redressal of grievances and sort out all the web related issues pertaining to students and teachers during the initial phase of its implementation. To make this method more effective and popular, Government's administrative collaboration along with stake holders for genuine policy framework accompanied by adequate infrastructure development is recommended before implementation. Some strategies like orientation courses, seminars, symposium and workshops should be organized to spread its popularity and acceptance not only in cities but also in each and every corner of the state.

2. To overcome the barriers of this method more research works are suggested. If needed Universities should organize time to time refresher courses so that teachers can upto date themselves with latest innovative methods.

3. Spread awareness among parents about the innovative methods so that they can provide appropriate tools, facilities and can monitor their wards. Experts should be invited to explain the objectives, techniques and strategies to create awareness among the students along with their parents.

4. In Blended Learning attitude of students is of utmost importance. Students should be well explained about the preset goals. They should be trained and prepared how to be self-motivated for self-learning. Interactive session is a strategy of Blended Learning to get better academic performance. Interactive session with individual student is more effective rather than group.

5. As Blended Learning is considered as an effective method in higher education, to make it more popularise it should be introduced from root level of Education i.e. from primary school.

CONCLUSION

It is very prominent from the study and also from the perspective of higher education students of Assam that Blended learning is an effective and viable method for future implementation. If the authority could define the objectives of the program by giving adequate consideration to the digital divide and existing socio-economic divisions, with the 5G network services expected to roll out, this method will be fascinating, enhancing and more motivating, which can bring a paradigm shift in the traditional concepts of educational environment.

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