

SUMMARY OF THE FINDINGS, SUGGESTIONS AND CONCLUSION

6.0 INTRODUCTION

The study “Awareness towards Blended Learning as paradigm of LIS education in selected universities of North East India: an analytical study” was undertaken with the main objective to find out the awareness and use of Blended Learning and its tools among North Eastern LIS Teachers, students and research scholars and also to analyse their skills, views, as well as interest with regard to Blended Learning. The study was also expected to suggest/recommend ways and means to overcome the challenges faced by LIS Teachers, students and research scholars and finally determine the policy programmes and possibilities, which would help to improve and inspire use of Blended Learning. This study would help with ideas for improving facilities in the LIS departments of universities of North East India. The findings of the study would surely help in identifying elements for formulation of policies and programmes for the development of North Eastern Universities in general and LIS departments in particular. As a result, the study can contribute to develop national educational system and other Blended Learning based capabilities. The study had been carried out keeping in mind the objectives that have to be achieved. In this chapter, the researcher has come out with suggestions, recommendations, areas for further research and conclusion, which have been summarized below based on the analysis and interpretations of the data collected from the LIS Teachers, students and research scholars of the selected six universities of North East India. The major findings of the study are reported below under the following two headings:

- Findings based on LIS Teachers' questionnaires
- Findings based on Students and Research Scholars' questionnaires

6.1 FINDINGS BASED ON LIS TEACHERS' QUESTIONNAIRES

The findings are broadly classified under appropriate headings with reference to the concerned table and figure numbers in Chapter 5

➤ General Information

1. Study reveals that the questionnaires were distributed to 29 LIS Teachers of six universities of North East India, out of which 27 (93%) responded to the survey. In Assam University (AU), Manipur University (MU), North Eastern Hill University (NEHU) and Mizoram University (MZU) 100% responded to the survey, while in Gauhati University (GU) and Dibrugarh University (DU) the response rate are 83% and 50% respectively. **(Table 5.1)**
2. Study depicts the distribution of LIS Teachers university wise that is from Mizoram University (MZU) 25.93%, North Eastern Hill University (NEHU) 22.22%, Gauhati University (GU) 18.51% , Assam University (AU) 14.82%, Manipur University (MU) 14.82% and 3.7% from Dibrugarh University (DU). **(Figure 5.2)**
3. Study presents that 66% of LIS Teachers were Assistant Professors followed by 19% Professors and 15% Associate Professors. **(Figure 5.3)**
4. Study shows that 74% of LIS Teachers in North East India were male and 26% were female. It indicates that in this part of India LIS departments are having male LIS Teachers more than female. **(Figure 5.4)**
5. Study discloses that the LIS Teachers fall in the age group of 31 - 40 (45%) followed by 41-50 (33%), 61 & above (11%), 51-60 (7%) and minimum is below 30 (4%). It indicates that majority of North Eastern LIS Teachers were in age group 31 – 40. **(Figure 5.5)**

6. Study divulges that 77% of LIS Teachers had PhD, 4% had M.Phil. and 19% had only Master Degree. It indicates that majority of North Eastern LIS Teachers had Ph.D. degree. **(Figure 5.6)**

➤ **IT Literacy Level and Facilities**

7. Study depicts that 100% of LIS Teachers use IT. Therefore, it shows that all of LIS Teachers use IT and its facilities.

8. Study presents that 92.59% of the LIS Teachers use IT in the university while 70.37% of them use IT both in university and home and 18.51% opted for others where they mentioned on road, cyber café, all places, through mobile phone everywhere. **(Figure 5.7)**

9. Study shows that 92.59% of the LIS Teachers use broadband while 7.40% of them use dial up connection and again 7.40% opted for others where they mentioned leased line, 3g Dongle (wireless), Data Card. **(Figure 5.8)**

10. Study exposes that 96.29% of the LIS Teachers use IT for classroom purpose while 74.07% of them use IT for workshop presentations and 7.40% opted for others where they mentioned purposes like research, seminar, conference etc. **(Figure 5.9)**

11. Study reveals that 100% of LIS Teachers said that there is course content on IT tools and applications in their syllabus of LIS curriculum. Therefore, it shows that all the six departments are having IT tools and application in their course content.

12. Study discloses that 100% of LIS Teachers said that computers are available to them and students in their departments. Therefore, it shows that all the six departments are having computer facility for their LIS Teachers and students.

13. Study reveals that 100% of LIS Teachers said that they have the access to high speed Internet. Therefore, it shows that all the LIS Teachers of six departments are having access to high speed internet.

14. Study divulges that 63% of LIS Teachers have intermediate level of expertise while 33% have advanced level of expertise and 4% stated that they are novice in regard to this. It indicates that majority of North Eastern LIS Teachers are having intermediate level of expertise in using computers. **(Figure 5.10)**

➤ **Familiarity with E-Learning**

15. Study shows that 74% of LIS Teachers have some teaching experience with e-learning courses while 26% have no teaching experience with e-learning courses. Therefore, it shows that majority of the LIS Teachers of six departments are having some kind of experience with e-learning courses. **(Figure 5.11)**

16. Study depicts that 96% of LIS Teachers are interested in taking part in e-learning teaching, rest 4% opined that they can't tell. Therefore, it shows that majority of the LIS Teachers of six departments of North East India are interested in taking part in e-learning teaching. **(Figure 5.12)**

17. Study tells that 48% of LIS Teachers access information from the web daily, 51% post in asynchronous discussion (e.g. discussion forum) occasionally, 44% participate in synchronous discussion (e.g. using a chat box) occasionally and 51% upload a file/resource to a website occasionally. Therefore, it shows that a good majority of the LIS Teachers of six departments of North East India are using computers for the above mentioned chore occasionally. **(Figure 5.13)**

18. Study discloses that majority of LIS Teachers that is, 52%, 77%, and 67% have no experience in teaching courses which involve the use of a discussion forum, teaching courses which involve the use of chat (synchronous discussion) and

teaching courses which have a self-assessment programme to test students' learning respectively. While a good majority of LIS Teachers 52% have taught courses in which course materials and resources have been delivered online (i.e. within VLE). Therefore, it shows that majority of the LIS Teachers of six departments of North East India are having less experience in using computers in a course/study programme. **(Figure 5.14)**

➤ **Blended Learning Awareness**

19. Study depicts that out of the 27 LIS Teachers 96% know about what Blended Learning is and rest 4% of are unaware of Blended Learning. Therefore it is clear that a good majority of the LIS Teachers of North East India have knowledge of Blended Learning. **(Figure 5.15)**

20. Study shows that the LIS Teachers who know about Blended Learning, 100% of them appreciate Blended Learning as compared to the traditional one. It became clear that majority of the LIS Teachers of North East India appreciate Blended Learning as compared to traditional learning.

21. Study divulges that majority of the LIS Teachers that is 48% would like to introduce Blended Learning course within 2 years. Again 26% of them viewed that they would like to introduce Blended Learning course but not earlier than 2 years. Also it is seen that another 26% of the LIS Teachers stated that they don't know about it. Therefore it is clear that a good majority of the LIS Teachers of North East India intend to introduce Blended Learning course within 2 years, which is really a good sign. **(Figure 5.16)**

22. Study reveals the view on Blended Learning by LIS Teachers. Majority of the LIS Teachers i.e., 78% agreed that the role of teacher will be changed by embedding educational technologies into the teaching and learning practices and while 22%

disagreed. Majority of the LIS Teachers that are 96% agreed that the Blended Learning (such as blog, wiki, e-community, email in learning and teaching) can help in developing their students in a holistic manner while 4% disagreed. Majority of the LIS Teachers that are 93% agreed that the tool of Blended Learning will provide a platform for better and quality education while 7% were vague towards it. Majority of the LIS Teachers that are 89% agreed that Blended Learning would help knowledge co-construction while 11% were vague towards it. Therefore, it is clear that a good majority of the LIS Teachers of North East India agree upon the questions regarding Blended Learning. It shows that LIS Teachers of North East India's views and thoughts are positive towards Blended Learning, which is really a healthy sign. **(Figure 5.17)**

23. Study discloses that majority of the LIS Teachers that is 63%, opted for giving lectures in a method which combines both face to face and online. 37% of them viewed for giving lecture face to face. It is strange to note that no one opted for giving online downloadable videos of lectures. Therefore, it is clear that a good majority of the LIS Teachers of North East India intend to give lectures through combination of both, which is really a good sign. **(Figure 5.18)**

24. Study shows that majority of the LIS Teachers that is 55% opted that they are somewhat prepared to use the Blended Learning platform at their university, again 41% viewed that they are very much prepared and 4% of the LIS Teachers stated that they are not prepared for it. Therefore it is clear that a good majority of the LIS Teachers of North East India are somewhat prepared to use Blended Learning platform in their university. **(Figure 5.19)**

25. Study reveals that majority of the LIS Teachers that is 81% said that they require additional support and training for teaching in blended format, again 19% said that

there is no requirement of additional support and training. Therefore from the table it is clear that a good majority of the LIS Teachers of North East India feel for help through training and technology for teaching using blended format. **(Figure 5.20)**

26. Study divulges the type of course format the LIS Teachers use in their university. It shows that in case of Traditional course format, majority of LIS Teachers 85% use it in full extent. In case of Blended course format, majority of the LIS Teachers 74% use it in some extent. While in case of online course format it is seen that majority of the LIS Teachers 70% have not used it at all, while 30% of them use it to some extent. Therefore, it shows that a good majority of the LIS Teachers of six departments of North East India are using traditional type of course format in full extent along with that a good majority is seen to use blended course format to some extent. This shows blended course format is being used to certain level in these universities. **(Figure 5.21)**

27. Study shows that the most used and popular among the technologies in the classroom is PowerPoint 96% followed by Interactive White Board 59%. The technology which is not being used is Audience response system with 100% response. Therefore, it shows that PowerPoint technology is effectively used by the LIS Teachers as teaching aid. **(Figure 5.22)**

28. Study depicts that the most used and popular among the virtual communication tools is Email with 88% followed by Plagiarism Detection Software with 48%, Chat or conferencing with 44%, Audio files with 40%, Polling and questionnaire with 40%. Not used is Videoconferencing with 100% response followed by Discussion boards with 80%. Therefore, it shows that email is productively used by the LIS Teachers as teaching aid. **(Figure 5.23)**

29. Study divulges that the most used and popular among the social networking software is Instant messaging and phone calls with 75% followed by Social-networking sites with 71%, Weblogs with 67%, Wikis with 63%. Not used is Podcasts with 100% response of not used followed by Video clips with 54%. Therefore, it shows that instant messaging and phone calls is efficiently used by the LIS Teachers as teaching aid. **(Figure 5.24)**
30. Study reveals that the most used and popular among the E-Learning Systems is Group sites e.g. Google groups with 58% followed by Virtual Learning Environments e.g. blackboard with 42%. Not used is Conferencing systems e.g. iCohere and Group Collaboration Software e.g. Lotus Notes with 96% each response of not used and with 4% not knows about them. Therefore, it shows that Group sites are productively used by the LIS Teachers as teaching aid. **(Figure 5.25)**
31. Study depicts that the most used and popular among the Mobile Learning is Laptops with 88% followed by Mobile phones with 64% and Tablet PCs with 48%. Not used are Personal Digital Assistants (PDA) e.g. Apple's Newton and MP3 e.g. iPods with 100% each. Therefore, it shows that Laptop is lucratively used by the LIS Teachers as teaching aid. **(Figure 5.26)**
32. Study tells the challenges that are in the path of effective use of Blended Learning in LIS education (70%) of the LIS Teachers stated that lack of training programmes for teachers to use/teach Blended Learning tools use is one of the major challenges, followed by lack of technical support/advice and lack of infrastructure with 59% each, student's limitations with ICT skills with 56%, lack of awareness regarding ways to integrate the software into teaching and lack of content in local language with 52% each, lack of time to explore all Blended Learning applications with

48%, lack of administrative support/initiative at faculty level with 44%, problems with internet access with 37%, difficult to keep up-to-date with the best and suitable educational technology with 33%, lack of maintenance of computers & security issues with 30%, lack of students'/ teachers' interest, prefer traditional way and not willing to step out from comfort zone and age constraint with 22% each, Blended Learning tools are too complicated to use 15%, unable to relate Blended Learning applications with teaching 7%. (**Figure 5.27**)

33. Study reveals one facility/function that the LIS Teachers want to have them in educational system which would help them in teaching experience and further development of their students in a holistic manner. 70% of the LIS Teachers opted for PowerPoint followed by Video Conference with 52%, VLE and Online Forum with 30% each, Online Discussion board with 22%, Online Chat Room with 19%, Blog and Wiki with 15% each, Podcasting with 11% and Real Time Polling system with 7%. (**Figure 5.28**)

34. Study depicts the most positive aspects of teaching a course using blended format, pointed out by the LIS Teachers. New generation students are comfortable in using ICT. They opined that learners can learn in their own space and time.

- ❖ This kind of format can face the challenges the LIS professionals are encountering.
- ❖ One can be always up-to-date in the subject.
- ❖ This kind of format will help to acquaint the students with the latest ICT application in LIS.
- ❖ The visualisation and graphic effect, seeing and hearing together makes a student understand better and more.

- ❖ Teaching process becomes more effective through this kind of format. It enhances understanding of the students.
- ❖ Students will find blended learning more interesting than face-to-face format.
- ❖ They can explain better by showing examples.
- ❖ This format would help in the enhancement of teaching learning process. Also it will enhance the existing face to face format.
- ❖ Through this format they can reach the unreached students. They can make their students learn about the new environment.
- ❖ By this format classroom (f2f) can be extended and can be made available 24x7. They viewed that f2f gets supplemented through this format.
- ❖ This format is effective, educative, attractive, convincing, interesting, understandable and lively.
- ❖ Students will gain knowledge both in IT and the traditional systems.
- ❖ This format provides platform to share the content in exhaustive manner. It provides platform for communication with students. It helps in live interaction and awareness to computer and communication technologies.

35 Study presents the least positive aspects of teaching a course using blended format, pointed out by the LIS Teachers. This format may divert the students thought and would impact in less reading habit.

- ❖ ICT infrastructure should be made available for that.
- ❖ The lack of proper devices and internet connection in the learners' end. Lack of infrastructure may create hindrances for this format.
- ❖ Too much involvement in technology can decrease the face-to-face teaching level.
- ❖ Lack of consistency of contents, accessibility, and authenticity.

- ❖ Over use may lead to incompetence in teachers.
- ❖ They mentioned about technical or system breakdown.
- ❖ The teaching learning process mainly depends on infrastructure, which is it requires infrastructure.

36 Study reveals the important suggestions mentioned by the LIS Teachers on the way learning can be blended for the upliftment of LIS education.

- ❖ ICT infrastructure should be made available for this. All the tools of blended learning are important for teaching and learning process but these facilities are at present not available in most of the places.
- ❖ If class rooms are connected to internet then Social Networking Sites can be integrated for teaching and learning process at the beginning.
- ❖ They are very much optimistic that blended format will be definitely helpful in LIS education for which necessary infrastructure and training is essential.
- ❖ They recommended that at first the mindset of teachers must be changed. This should be taken as challenge and everybody must accept this challenge. We are living in ICT era, so whatever new development comes to our way, we should use it for the betterment of the profession.
- ❖ They suggested for accepting the changes. Infrastructure is must. Theory and Practise should go parallel. Continuous up gradation is essential to cope with changing scenario.
- ❖ Judicious identification, evaluation and use of contents in blended learning environment are very important.
- ❖ Most importantly familiarity of the learners with the environment must be taken into consideration while planning such a venture.
- ❖ More awareness and trainings on blended learning must be initiated.

- ❖ Course structure has to be re-formed according to the market need.
- ❖ A nationwide infrastructure and platform with the capacity to share contents will surely go long way in uplifting LIS education in India.
- ❖ Development of infrastructure and basic infrastructure should be given to both LIS Teacher and students.
- ❖ They commented that this kind of teaching learning format is a must in IT age. It is good for both students and teachers. But it is bit hard for North Eastern States of India. It mainly depends on manpower, financial support and interest of the authority and other member of the university as a whole.
- ❖ Training programme should be organised for LIS Teacher member to learn and experience blended learning systems.

6.2 FINDINGS BASED ON STUDENTS AND RESEARCH SCHOLARS' QUESTIONNAIRE

The findings are broadly classified under appropriate headings with reference to the concerned table and figure numbers in Chapter 5.

➤ General Information

1. Questionnaires were distributed to 323 respondents which comprises of students and research scholars, out of which 280 responded to the survey. The total response rate is 86.69%. **(Table 5.29)**
2. Study reveals the University wise distribution of respondents who participated in the survey. From Assam University (AU) 23.58%, followed by North Eastern Hill University (NEHU) with 19.64%, Gauhati University (GU) with 17.5%, Mizoram University (MZU) with 15.71%, Dibrugarh University (DU) with 13.21%, and Manipur University (MU) with 10.36%. **(Figure 5.30)**
3. Study tells the Category wise distribution of the respondents. It shows that 87.5% of respondents are students and 12.5% are research scholars. **(Figure 5.31)**

4. Study shows that 58% of respondents are female and 42% are male. **(Figure 5.32)**
5. Study reveals that 81% of respondents fall in the age group of below 25, followed by 17% of the respondents who fall under the age group of 25-35, and 2% fall in the age group of 35-45. **(Figure 5.33)**

➤ **Facilities**

6. Study divulges that 89% of the respondents viewed that there are facility of computers in dedicated computer rooms while 6% said that there are some computers in the normal classroom and 5% responded negatively. Therefore, by the majority it shows that all six departments are providing computer facility for their students and research scholars. **(Figure 5.34)**
7. Study depicts that 77.5% of the respondents viewed that the IT facilities in their departments are adequate for them to perform learning and research work responded with positive reply while 22.5% of them responded with negative reply. Therefore, it shows that though majority of them replied with adequate IT facility still there are some who felt that IT facility in the departments are not adequate. **(Figure 5.35)**
8. Study presents the type of technology they access outside university campus. It shows that 49% of the respondents have a personal computer with internet connectivity followed by 23% who have a personal computer but no internet connectivity, 17% who have access to a computer only part of the time, 9% who have access to a computer with internet part of the time and rest 2% have no access to a computer. Therefore, it shows that majority of them are having a personal computer with internet connectivity. **(Figure 5.36)**

➤ **IT Literacy Level**

9. Study discloses that 51% of the respondents are competent at computer/technology skills followed by 35% beginner, 12% proficient and 2% expert. Therefore, it shows that majority of them are having competent level of skills. **(Figure 5.37)**
10. Study tells that 85% of the respondents use Information Technology (IT) for information seeking purpose while 28% of them use IT for leisure time, 14% use for doing a research and 6% opted for others where they mentioned purpose like social networking. **(Figure 5.38)**

➤ **Familiarity with E-Learning**

11. Study reveals that 43% of the respondents have some experience with e-learning courses while 57% of the respondents do not have any experience with e-learning courses. Therefore, it shows that majority of the respondents are not having any kind of experience with e-learning courses. **(Figure 5.39)**

➤ **Blended Learning Awareness**

12. Study depicts that out of the 280 respondents, 42% know about what Blended Learning is. Rests 58% of are unaware of Blended Learning. Therefore it is clear that majority of the students and research scholars of North East India do not have the knowledge of Blended Learning. **(Figure 5.40)**
13. Study reveals that out of 117 respondents, who know Blended Learning, 95% of them would appreciate Blended Learning as compared to the traditional one and rest 5% do not appreciate it. It became clear that majority of the students and research scholars of North East India who knows about Blended Learning appreciate Blended Learning as compared to traditional learning. **(Figure 5.41)**
14. Study presents the most used and popular among the technologies in the classroom is PowerPoint with 92% followed by Interactive White Board with 51%. Not used

is Audience response system with 70%. Therefore, it shows that PowerPoint technology and Interactive White Board is lucratively used by the students and research scholars. **(Figure 5.42)**

15. Study exposes that the most used and popular among the virtual communication tools is Email 79% followed by Chat or conferencing 55%. Majority of not used is Videoconferencing with 81% followed by Polling and questionnaire with 75% Audio files 68% and Discussion boards 59%. Therefore, it shows that email and chat are effectively used by the students and research scholars. **(Figure 5.43)**

16. Study reveals that the most used and popular among the social networking software is Social-networking sites with 88% followed by Instant messaging and phone calls with 81% and Wikis with 63%. Not used are Video clips with 78% response followed by Podcasts with 75% and Weblogs with 62%. Again it is seen that some social networking software are not known to them like wikis with 18% followed by podcasts 15% and weblogs with 14%. Therefore, it shows that Social-networking sites and instant messaging and phone calls are productively used by the students and research scholars. **(Figure 5.44)**

17. Study presents that the most used and popular among the E-Learning Systems is Group sites e.g. Google groups with 88% followed by Virtual Learning Environments e.g. blackboard with 40%. Not used is a Conferencing system e.g. iCohere with 91% and Group Collaboration Software e.g. Lotus Notes with 90% and rest with 9% and with 10% respectively do not know about them. Therefore, it shows that Group sites are efficiently used by the students and research scholars. **(Figure 5.45)**

18. Study shows that the most used and popular among the Mobile Learning is Laptops with 96% followed by Mobile phones with 91%. Not used are Tablet PCs with 90%

response followed by MP3 with 86% response and Personal Digital Assistants (PDA) with 76% response. Therefore, it shows that Laptop and mobile phones are lucratively used by the students and research scholars. **(Figure 5.46)**

19. Study depicts that 75% of the respondents preferred for Blended course format. Again 18% of them preferred for Traditional course format and rest with 7% opted for entirely online course format. It is clear that a fine number of the LIS students and research scholars of North East India preferred for blended course format, which is really a good sign. **(Figure 5.47)**

20. Study reveals that majority of the respondents that is 71% said that ‘possibly’ Blended Learning can motivate them to acquire knowledge while 26% of them opted with ‘absolute yes’ and rest 3% opted with ‘absolutely no’. Therefore it shows that a bulk of the LIS students and research scholars of North East India thinks that perhaps use of Blended Learning will motivate them to acquire knowledge, which is really an excellent indication. **(Figure 5.48)**

21. Study divulges the different benefits the respondents would like to gain by taking part in Blended Learning system. Majority of the respondents that is 75% opted for Professional and Personal Development. Again 13% of them opted for Personal development and 8% opted for Professional development. And rest 4% opted that they don’t want to take part. Therefore, it is clear that a good majority of the LIS students and research scholars of North East India would like to benefit themselves both personally and professionally by taking part in Blended Learning system, which is really a healthy symptom. **(Figure 5.49)**

22. Study presents that majority of the respondents that is 65% thinks that Blended Learning offers better learning experience. Again 26% of them opted that they can’t tell and 9% responded with negative reply. Therefore, it is clear that a fine

bulk of the LIS students and research scholars of North East India think that Blended Learning would offer better learning experience than mere traditional face to face class room learning, which is in fact an outstanding mark. **(Figure 5.50)**

23. Study reveals that majority of the respondents that is 72% thinks that the tools of Blended Learning will provide a platform for better and quality education. Again 24% of them said that they can't tell about this and 4% responded with negative reply. Therefore, it is clear that a good number of the LIS students and research scholars of North East India think that tools of Blended Learning would provide a platform for better and quality education. **(Figure 5.51)**

24. Study reveals that majority of the respondents that is 80% agreed upon the fact that Blended Learning helps in knowledge co-construction. Again 19% of them opted for undecided and 1% disagreed on this. Therefore, it is clear that a good majority of the LIS students and research scholars of North East India agrees on the fact that Blended Learning helps in knowledge co-construction, which is really a good sign. **(Figure 5.52)**

25. Study presents the respondents' views and thoughts with regard to Blended Learning.

- ❖ Majority of the respondents that is 50% of them disagreed upon the statement that Blended Learning does not offer any advantage over classroom learning, 19% agreed and 31% remain neutral towards it.
- ❖ Majority of the respondents that is 47% agreed upon the statement that they can learn more or would learn more through blended activities than through classroom lectures, 16% disagreed while 37% remained neutral.

- ❖ Majority of the respondents that is 60% agreed upon the statement that Blended Learning will save them more time compared to attending classroom lectures, 10% disagreed while 30% were vague towards it.
- ❖ Majority of the respondents that is 47% remained neutral upon the statement that Blended Learning would be more cost effective compared to attending classroom lectures while 44% agreed upon it and 9% disagreed.
- ❖ Majority of the respondents that are 48% remained neutral towards the statement that compared to classroom learning, the workload for Blended Learning will be too heavy, while 37% agreed and 17% disagreed upon it.
- ❖ Majority of the respondents that are 41% remained neutral upon the statement that they can contribute more to online discussions than they do with classroom discussions, 40% agreed upon it, while 19% disagreed.
- ❖ Majority of the respondents that are 49% agreed upon the statement that they can interact more with their instructor and with other students in the blended environment than in the normal classroom, 16% disagreed while 35% were vague towards it.
- ❖ Majority of the respondents that are 80% agreed upon the statement that use of different teaching tools will surely make the lectures easier to understand, 1% disagreed while 19% were neutral towards it.
- ❖ Majority of the respondents that are 58% agreed upon the statement that it is a great choice of blending face-to-face and online components of course without losing focus on core concepts, 9% disagreed while 33% were neutral towards it.
- ❖ Majority of the respondents that are 66% agreed upon the statement that while f2f components typically occur within a local university, Blended Learning can

involve collaboration with students outside an institution, 2% disagreed while 32% were neutral towards it.

Therefore it is clear that a good bulk of the LIS students and research scholars of North East India agree upon the statements regarding Blended Learning. It shows that their views and thoughts are positive towards Blended Learning, which is really a healthy signal. **(Figure 5.53)**

26. Study reveals the respondents' views and thoughts with regard to factors impacting negatively on to convenient use of Blended Learning.

- ❖ Majority of the respondents that is 70% opted likely on the factor that their ability to participate in group work would impact negatively on to convenient use of Blended Learning, 8% opted unlikely and 22% remained neutral towards it. Majority of the respondents that is 45% opted neutral on the factor that Blended Learning will make the lecture redundant as all information is on-line, 34% opted likely while 21% opted unlikely.
- ❖ Majority of the respondents that is 42% were neutral upon the factor that Blended Learning is less interactive/ lack of direct communications with tutors, while 39% opted likely and 19% opted unlikely.
- ❖ Majority of the respondents that is 48% opted likely on the factor that lack of regular electric power supply on campus would impact negatively on to convenient use of Blended Learning, while 19% opted unlikely and 33% remained neutral towards it.
- ❖ Majority of the respondents that is 60% opted likely on the factor that their level of access to computer and internet connectivity which would impact negatively on to convenient use of Blended Learning, while 13% opted unlikely and 27% remained neutral towards it.

- ❖ Majority of the respondents that is 60% opted likely on the factor that the University campus environment would impact negatively on to convenient use of Blended Learning, while 14% opted unlikely and 26% remained neutral towards it.
- ❖ Majority of the respondents that is 51% opted likely on the factor that their level of computer and internet skills would impact negatively on to convenient use of Blended Learning, while 14% opted unlikely and 35% remained neutral towards it.
- ❖ Majority of the respondents that is 49% opted neutral on the factor that their other personal obligations would impact negatively on to convenient use of Blended Learning, while 38% opted likely and 13% opted unlikely.

Therefore, it is clear that certain factors are there which are likely to create hindrances in the path of convenient use of Blended Learning for the LIS students and research scholars' of North East India. (**Figure 5.54**)

27. Study reveals the respondents' views and thoughts with regard to factors impacting positively on the convenient use of Blended Learning.

- ❖ Majority of the respondents that is 82% opted likely on the factor that Blended Learning ensure to have instant contacts with lecturers which would impact positively on the convenient use of it, while 1% opted unlikely and 17% remained neutral towards it.
- ❖ Majority of the respondents that is 93% opted likely on the factor that Blended Learning helps to develop more online resources, 0% opted unlikely and 7% remained neutral towards it.

- ❖ Majority of the respondents that is 70% opted likely on the factor that more inputs from students on the development of Blended Learning can be gained, 0% opted unlikely and 30% remained neutral towards it.
- ❖ Majority of the respondents that is 73% opted likely on the factor that Blended Learning ensures f2f interaction with the tutors as students require re-assurance and ongoing support from them, 2% opted unlikely and 25% remained neutral towards it.
- ❖ Majority of the respondents that is 85% opted likely on the factor that Blended Learning ensures to give students clear guidance on how to use it, 1% opted unlikely and 14% remained neutral towards it.

Therefore it is clear that a good majority of the LIS students and research scholars of North East India agree upon the factors regarding Blended Learning which would impact positively on the convenient use of it. **(Figure 5.55)**

28. Study reveals the problems that are in the path of effective use of Blended Learning in LIS education as pointed out by the respondents. 91% of the respondents stated that Inadequate training in Blended Learning applications is one of the major challenge, followed by Lack of penetration of ICTs in semi-urban and rural India with 76%, Lack of support from administration /senior management which is vital with 71%, Lack of support from authorities for implementing Blended Learning applications in campus with 67%, Lack of course content, except in the IT domain with 66%, Lack of reliable communications infrastructure and equipments with 65%, Lack of teachers and experts for development, deployment, and delivery of the Blended Learning with 61%, Lack of psychological acceptance of new things with 58%, Lack of standards and a long gestation period for implementation and Lack of interest with 56% each, Lack of content in vernacular Indian languages as

most of the content is still in English with 52%, Lack of teachers' experience and understanding of the Blended method of teaching and learning programmes with 49% (**Figure 5.56**)

29. Study reveals one learning tool that the respondents would like to blend in with the traditional f2f teaching in their university so as to help them in better LIS learning experience. 80% of the respondents opted for PowerPoint, followed by Video Conference with 35%, Online Discussion board with 31%, Online Chat Room and Blog each with 23%, Wiki with 16%, Online Forum with 15%, Podcasting with 7%, VLE with 6% and Real Time Polling system with 2%. (**Figure 5.57**)

30. Study reveals the important advantages of using Blended Learning course format as mentioned by the respondents. They said that time is not restricted, anytime they can use. It is time saving and attractive, more up-to-date, more interactive. They can become more use to of computer and therefore they can easily handle it. They said that it is extremely interesting for them also helping their knowledge to become more powerful. They mentioned that through Blended Learning knowledge can remain up to date. It is easy to get information. It will progress the whole education system and help students. Students can have access to unlimited up-to-date resources available via the web. They said that lectures will be livelier and interactive. They said that they can have many things to learn from it. It saves lots of time and effort. It will encourage students to participate and they will speak up. It would give more exposure to IT.

31. Study reveals the disadvantages related to blended format of course as mentioned by the respondents. They reported lack of equipment and internet facility, lack of infrastructure, lack of training in Blended Learning, and not every student will have computer. It is prone to technological disturbances.

32. Study reveals the valuable comments and suggestions by respondents on the way learning can be blended for the up liftment of LIS education.

- ❖ Advanced and quality IT infrastructure is needed to implement blended learning. Blended learning system is very much needed to cope up with the competitive environment.
- ❖ Implementation of blended learning will help in standardizing LIS education.
- ❖ Blended learning is the present need in LIS course. Research scholars, students and teachers should accept the changing need of LIS education and to survive in future as compared to other professional subjects, LIS professionals must accept this technology.
- ❖ LIS professionals have to include more practical things on comparison to traditional course structure.
- ❖ They said that they must be aware about the new technologies and learn new technologies without which they can't progress in today's educational system. They said that it will help them.
- ❖ They are of the opinion that blended leaning must be improved.
- ❖ More resources for all students with expert teachers.
- ❖ Students should get opportunities to train themselves freely in IT based practices.
- ❖ They are of the opinion that blended learning is highly needed in LIS education and learning. In our knowledge society blended learning is very important and so it is required to be improved.
- ❖ Application of IT in its full strength will boost blended learning.

- ❖ Blended learning would be an important component to uplift the LIS education as the students can be able to get the knowledge from traditional f2f classroom lectures and online lectures.
- ❖ Student typically have 24/7 access to online course materials.
- ❖ If teachers provide f2f learning with blended learning then it will be more helpful to them.
- ❖ Problem of connecting to the internet should be eradicated; mass ICT awareness programme should be introduced and both f2f and online should be balanced as both are important.

6.3 FINDINGS IN RELATION TO OBJECTIVES OF THE STUDY

1. The first objective is *“To reveal the awareness among the students and teachers about Blended Learning in LIS departments of selected Universities of North East India.”* The study fulfilled the first objective successfully and the findings are:

- ❖ Out of the 280 respondents, 42% know about what Blended Learning is. Rests 58% of are unaware of Blended Learning. Therefore it is clear that majority of the students and research scholars of North East India do not have the knowledge of Blended Learning.
- ❖ Out of the 27 LIS Teachers, 96% know about what Blended Learning is and rest 4% of are unaware of Blended Learning. Therefore it is clear that a good majority of the LIS Teachers of North East India have knowledge of Blended Learning.

2. The second objective is *“To reveal the use of Blended Learning tools and techniques of education like PowerPoint, Interactive whiteboard, Virtual communication tools, Podcasts, Virtual Learning Environments (VLEs), E-mail, chat or conferencing, discussion boards etc in teaching learning programmes of LIS education in*

Universities of North East India.” The study fulfilled the second objective successfully and the findings are displayed below:

- ❖ The most used and popular among the **technologies in the classroom** is PowerPoint with 96% followed by Interactive White Board with 59%. Not used is Audience response system with 100% response. **Therefore, it shows that PowerPoint technology is lucratively used by the LIS Teachers as teaching aid.**
- ❖ The most used and popular among the **virtual communication tools** is Email with 88% followed by Plagiarism Detection Software with 48%, Chat or conferencing with 44%, Audio files with 40%, Polling and questionnaire with 40%. Not used is Videoconferencing with 100% response followed by Discussion boards with 80%. **Therefore, it shows that email is effectively used by the LIS Teachers as teaching aid.**
- ❖ The most used and popular among the **social networking software** is instant messaging and phone calls with 75% followed by Social-networking sites with 71%, Weblogs with 67%, Wikis with 63%. Not used is Podcasts with 100% response of not used followed by Video clips 54%. **Therefore, it shows that instant messaging and phone calls is productively used by the LIS Teachers as teaching aid.**
- ❖ The most used and popular among the **E-Learning Systems** is Group sites e.g. Google groups with 58% followed by Virtual Learning Environments e.g. blackboard with 42%. Not used is Conferencing systems e.g. iCohere and Group Collaboration Software e.g. Lotus Notes with 96% each response of not used and with 4% not knows about them. **Therefore, it shows that Group sites are efficiently used by the LIS Teachers as teaching aid.**

- ❖ The most used and popular among the **Mobile Learning** is Laptops with 88% followed by Mobile phones with 64% and Tablet PCs with 48%. Not used are Personal Digital Assistants (PDA) e.g. Apple's Newton and MP3 e.g. iPods with 100% each. **Therefore, it shows that Laptop is prolifically used by the LIS Teachers as teaching aid.**
- ❖ The most used and popular among the **technologies in the classroom** is PowerPoint (92%) followed by Interactive White Board (51%). Not used is Audience response system with (70%). **Therefore, it shows that PowerPoint technology and Interactive White Board is lucratively used by the students and research scholars.**
- ❖ The most used and popular among the **virtual communication tools** is Email with 79% followed by Chat or conferencing with 55%. Majority of not used is Videoconferencing with 81% followed by Polling and questionnaire with 75% Audio files 68% and Discussion boards 59%. **Therefore, it shows that email and chat are abundantly used by the students and research scholars.**
- ❖ The most used and popular among the **social networking software** is Social-networking sites with 88% followed by Instant messaging and phone calls with 81% and Wikis with 63%. Not used are Video clips with 78% response followed by Podcasts with 75% and Weblogs with 62%. Again it is seen that some social networking software are not known to them like wikis with 18% followed by podcasts with 15% and weblogs with 14%. **Therefore, it shows that Social-networking sites and instant messaging and phone calls are copiously used by the students and research scholars.**
- ❖ The most used and popular among the **E-Learning Systems** is Group sites e.g. Google groups with 88% followed by Virtual Learning Environments e.g.

blackboard with 40%. Not used is Conferencing systems e.g. iCohere with 91% and Group Collaboration Software e.g. Lotus Notes with 90% and rest with 9% and with 10% respectively do not know about them. **Therefore, it shows that Group sites are effectively used by the students and research scholars.**

- ❖ The most used and popular among the **Mobile Learning** is Laptops with 96% followed by Mobile phones with 91%. Not used are Tablet PCs with 90% response, followed by MP3 with 86% response and Personal Digital Assistants (PDA) with 76% response. **Therefore, it shows that Laptop and mobile phones are profusely used by the students and research scholars.**

3. The third objective is *“To understand the knowledge and skills on Blended Learning by the LIS teachers of Universities of North East India.”* The study met the third objective successfully and the findings are displayed below:

- ❖ It is seen that 63% of LIS Teachers have intermediate level of expertise in using computers while 33% have advanced level of expertise in using computers and 4% stated that they are novice in using computers. **It indicates that majority of North Eastern LIS Teachers are having intermediate level of expertise in using computers**
- ❖ Majority of LIS Teachers that is 48% access information from the web daily, 51% post in asynchronous discussion (e.g. discussion forum) occasionally, 44% participate in synchronous discussion (e.g. using a chat box) occasionally and 51% upload a file/resource to a website occasionally. **Therefore, it shows that a fine number of the LIS Teachers of six departments of North East India are using computers for the above mentioned chore occasionally.**
- ❖ Majority of LIS Teachers that is, 52%, 77%, and 67% have no experience in teaching courses which involve the use of a discussion forum, teaching courses

which involve the use of chat (synchronous discussion) and teaching courses which have a self-assessment programme to test students' learning respectively. While a good majority of LIS Teachers with 52% have taught courses in which course materials and resources have been delivered online (i.e. within VLE). **Therefore, it shows that widely held of the LIS Teachers of six departments of North East India are having less experience in using computers in a course/study programme.**

- ❖ Majority of the LIS Teachers that is 55% opted that they are somewhat prepared to use the Blended Learning platform at their university, again 41% viewed that they are very much prepared and 4% of the LIS Teachers stated that they are not prepared for it. **Therefore it is clear that fine bulks of the LIS Teachers of North East India are somewhat prepared to use Blended Learning platform in their university.**
- ❖ Majority of the LIS Teachers that is 81% said that they require additional support and training for teaching in blended format, again 19% said that there is no requirement of additional support and training. **Therefore it is clear that a good number of the LIS Teachers of North East India feel for help trough training and technology for teaching using blended format.**

4. The fourth objective is *“To find out the present status of ICT infrastructure and utilization of the same in teaching learning programmes of LIS education of Universities of North East India.”* The study met the fourth objective successfully and the findings are displayed below:

- ❖ It is seen that 100% of LIS Teachers said that computers are available to them and students/research scholars in their departments. **Therefore, it shows that**

all six departments are having computer facility for their LIS Teachers and students and research scholars.

- ❖ It is seen that 100% of LIS Teachers said that they have the access to high speed Internet. **Therefore, it shows that all the LIS Teachers of six departments are having access to high speed internet.**
- ❖ It is seen that 77.5% of the respondents viewed that the IT facilities in their departments are adequate for them to perform learning and research work while 22.5% of them responded with negative reply. **Therefore, it shows that though majority of them replied with adequate IT facility still there are some who felt that IT facility in the departments are not adequate.**
- ❖ It is seen that 92.59% of the LIS Teachers use IT in the university while 70.37% of them use IT both in university and home and 18.51% opted for others where they mentioned on road, cyber café, all places, through mobile phone everywhere. **So majority of the LIS Teachers use IT in the university.**
- ❖ It is seen that 96.29% of the LIS Teachers use IT for classroom purpose while 74.07% of them use IT for workshop presentations and 7.40% opted for others where they mentioned purposes like research, seminar, conference etc. So, **majority of the LIS Teachers use IT for classroom purpose.**

5. The fifth objective is *“To determine the challenges associated with the application of Blended Learning in LIS education by the Universities of North East India.”* The study met the fifth objective successfully and the findings are displayed below:

- ❖ It is seen that 70% of the LIS Teachers stated that lack of training programmes for teachers to use/teach Blended Learning tools is one of the major challenge, followed by lack of technical support/advice and lack of infrastructure with

59% each, student's limitations with ICT skills with 56%, lack of awareness regarding ways to integrate the software into teaching and lack of content in local language with 52% each, lack of time to explore all Blended Learning applications with 48%, lack of administrative support/initiative at faculty level with 44%, problems with internet access with 37%, difficult to keep up-to-date with the best and suitable educational technology with 33%, lack of maintenance of computers & security issues with 30%, lack of students'/ teachers' interest, prefer traditional way and not willing to step out from comfort zone and age constraint with 22% each, Blended Learning tools are too complicated to use with 15%, and unable to relate Blended Learning applications with teaching with 7%.

- ❖ It is seen that 91% of the respondents stated that Inadequate training in Blended Learning applications is one of the major challenge, followed by Lack of penetration of ICTs in semi-urban and rural India with 76%, Lack of support from administration /senior management which is vital with 71%, Lack of support from authorities for implementing Blended Learning applications in campus with 67%, Lack of course content, except in the IT domain with 66%, Lack of reliable communications infrastructure and equipments with 65%, Lack of teachers and experts for development, deployment, and delivery of the Blended Learning with 61%, Lack of psychological acceptance of new things with 58%, Lack of standards and a long gestation period for implementation and Lack of interest with 56% each, Lack of content in vernacular Indian languages as most of the content is still in English with 52%, Lack of teachers' experience and understanding of the Blended method of teaching and learning programmes with 49%.

6. The sixth objective is *“To find out if the students and academicians in the Library and Information Science (LIS) education and training are ready and eager to embrace innovative methods using technology in teaching and learning.”* The study met the sixth objective successfully and the findings are displayed below:

- ❖ It shows that the LIS Teachers who know about Blended Learning, 100% of them appreciate Blended Learning as compared to the traditional one. **It became comprehensible that the LIS Teachers of North East India appreciate Blended Learning as compared to traditional learning.**
- ❖ Majority of the LIS Teachers that is 48% would like to introduce Blended Learning course within 2 years. Again 26% of them viewed that they would like to introduce Blended Learning course but not earlier than 2 years. Also it is seen that another 26% of the LIS Teachers stated that they don't know about it. **Therefore it is understandable that a good bulk of the LIS Teachers of North East India intend to introduce Blended Learning course within 2 years, which is really an excellent signal.**
- ❖ Majority of the LIS Teachers that is 63%, opted for giving lectures in a method which combines both face to face and online and 37% of them viewed for giving lecture face to face. It is strange to note that no one opted for giving online downloadable videos of lectures. **Therefore, it is apparent that a fine mass of the LIS Teachers of North East India intend to give lectures through combination of both.**
- ❖ It is seen that out of 117 respondents, who know Blended Learning, 95% of them would appreciate Blended Learning as compared to the traditional one and rest 5% do not appreciate it. **It became obvious that majority of the students and research scholars of North East India who knows about**

Blended Learning appreciate Blended Learning as compared to traditional learning.

- ❖ Study reveals that 75% of the respondents preferred for Blended course format. Again 18% of them preferred for Traditional course format and rest 7% opted for entirely online course format. **Therefore it is lucid that a fine bulk of the LIS students and research scholars of North East India favoured for blended course format, which is in fact an excellent indication.**
- ❖ It shows the different benefits the respondents would like to gain by taking part in Blended Learning system. Majority of the respondents that is 75% opted for Professional and Personal Development. Again 13% of them opted for Personal development and 8% opted for Professional development. And rest 4% opted that they don't want to take part. **Therefore, it is obvious that a fine majority of the LIS students and research scholars of North East India would like to benefit themselves both personally and professionally by taking part in Blended Learning system, which is in fact a good symptom.**
- ❖ Majority of the respondents that is 65% thinks that Blended Learning offers better learning experience. Again 26% of them opted that they can't tell and 9% responded with negative reply. **Therefore, it is apparent that a good number of the LIS students and research scholars of North East India think that Blended Learning would offer better learning experience than mere traditional face to face class room learning.**
- ❖ Majority of the respondents that is 72% thinks that the tools of Blended Learning will provide a platform for better and quality education. Again 24% of them said that they can't tell about this and 4% responded with negative reply. **Therefore, it is lucid that a good bulk of the LIS students and**

research scholars of North East India think that tools of Blended Learning would provide a platform for better and quality education, which is actually a healthy sign.

7. The seventh objective is *“To find out effective Blended Learning tools and suggests some remedy which will help to enhance teaching and learning programmes in different LIS Departments of Universities of North East India.”* The study met the seventh objective successfully and the findings are displayed below:

- ❖ It shows one facility/function that the LIS Teachers want to have them in educational system which would help them in teaching experience and further development of their students in a holistic manner. 70% of the LIS Teachers opted for PowerPoint followed by Video Conference with 52%, VLE and Online Forum with 30% each, Online Discussion board with 22%, Online Chat Room with 19%, Blog and Wiki with 15% each, Podcasting with 11% and Real Time Polling system with 7%.
- ❖ It shows one learning tool that the respondents would like to blend in with the traditional f2f teaching in their university so as to help them in better LIS learning experience. 80% of the respondents opted for PowerPoint, followed by Video Conference with 35%, Online Discussion board with 31%, Online Chat Room and Blog each with 23%, Wiki with 16%, Online Forum with 15%, Podcasting with 7%, VLE with 6% and Real Time Polling system with 2%.

6.4 SUGGESTIONS AND RECOMMENDATIONS OF THE STUDY

Uses of ICT tools in education have become an indispensable part of a modern education system. The latest tools and information on new software are available to the learners before they go for higher education. They are growing up in such a generation where every

day a new technology booms up. So it's quite natural on their part to expect the use of these technologies in their education. Therefore, the universities must try to use Blended Learning in their departments for their user' needs in teaching, learning and research. The researcher by conducting the survey on the topic and by interacting with the LIS teachers, students and research scholars, tried to find out the ongoing position of the Blended Learning that is their awareness, use, views in the LIS departments of universities of North East India and the different challenges faced by them in the path of Blended Learning. The following recommendations are put forward for the effective use of Blended Learning and their proper implementation for the benefits of the teachers, students, research scholars, LIS departments, universities and the LIS professionals of North East India. The areas may be considered by the concerned for the improvement of Blended Learning system in LIS departments. The suggestions are applicable to any LIS department in India, in general, which will increase the utility of Blended Learning by faculty, students and research scholars. These are categorized in different headings.

Creation of National Agency

- ❖ An agency could be created by UGC/Government of India which may act as the national agency for guiding different universities of India in general and North East India in particular, in organisation and management of Blended Learning. They may be entrusted with developing infrastructure in the LIS departments needed for Blended Learning based on certain guidelines or principles. This may be shared among the universities directly. The proposed national agency could conduct training programme in the form of workshop, seminar, etc. for the LIS Teachers to make them equip with the workings of tools of Blended Learning.

Initiative of Government/Policy Makers

- ❖ Bringing in a fresh thinking, government and policy makers can do away with age-old method of teaching by introducing computer mediated instructions along with face to face teaching in the LIS education scenario. It is recommended that Government of India should have enough budgetary provision to develop Blended Learning based teaching learning in universities which would help LIS Teachers and students to prosper effectively. Government should support Blended Learning by providing incentive for its development in the form of consultancy, research and training which would develop Teachers and students in expertise, management skill, and organization of Blended Learning based teaching learning process. It is suggested that Government and authorities have to organise in-service training programmes for Teachers to administer and monitoring the changing trends and dimensions, allowing Teachers to attend seminars, conferences, short term courses, workshops, symposium by providing necessary arrangements such as leave with pay and other benefits.

Conduct Training Programmes

- ❖ Specialized training programmes through seminars, conferences, workshops, refresher courses, on Blended Learning at regular intervals may be conducted. This will provide a platform for the faculty and student to expose themselves the latest trend and developments in Blended Learning which will develop LIS education and research. Intensive training programmes from time to time on Blended Learning could update their knowledge and skills and could provide opportunity to develop skills on web based education to all the teachers and students. Thus they will get motivated towards it by achieving the standards of fineness, up to date knowledge and good communication skills which will help teaching learning process

effectively. Awareness regarding ways to integrate the software into teaching should be made. LIS profession should be more attractive so that finest brains come in to it. Training programme at basic and advanced level are the need of the hour. The students have to be aware of the dos and don'ts of Blended Learning and its tools. Though the students are elite group, their knowledge levels on the said area are superficial and need to have an in-depth knowledge to make optimum use of the wellness of Blended Learning. Negative attitudes act as barriers to effective Internet use. These should be changed through awareness raising programmes that will impart an understanding of the Internet's role in learning. The training and orientation programmes on Blended Learning to develop skills of Teachers should be organized in a regular manner. It is also suggested to train students about the basics of widely used Blended Learning tools.

Provision of Adequate Infrastructure

- ❖ ICT infrastructure is very important. There is a need to improve infrastructure in LIS departments which is inadequate to meet the requirements of learners. Adequate ICT infrastructure should be developed in LIS departments like computers, internet connectivity, smart class room, laptop, scanners, printers etc. to supplement teaching and learning. The budget for the development of infrastructure should be enhanced in proportion to the rising need and increasing demands of learners and teachers. ICT is an integral part of learning and teaching process. It is suggested to have IT facilities for the students and LIS Teachers to the desirable extent with the latest hardware and software. Computer is an important component of Blended Learning. It is suggested that provision should be made to train the students, from basic level followed by stepwise advanced training programmes. This should be followed by the latest developments of hardware, software and tools

of Blended Learning. The computers provided should be of up-to-date specifications for performing better and faster. Regular maintenance of computers should also be done. It is recommended to have the central provision of audio-visual aid facilities in the LIS departments in North East India. Internet acts as most popular facility for Blended Learning teaching learning process. Internet facility should be made available to all the LIS students and research scholars by the concerned department. They have to increase the number of terminals in order to extend adequate infrastructure facility to them. So the LIS departments have to improve their infrastructure for students and research scholars with sufficient terminals. They should have the access facility with proper authorization for LIS Teachers and students. The provision preferably should be made at working place, home, and each and every corner of the locality and Government of India have to play a major role. It is recommended that data access speed communication (data routes and band width) should be increased. More bandwidth should be sought so as to provide faster access that will save much of the time and be a source of motivation to use the internet. Maintenance of computers should also be done more regularly. Students should be provided with more chances of formal training in order to acquire skills on effective internet use. Wi-Fi connectivity should be available in all the areas of the university campus. It is suggested that adequate power backup facility be provided, in order to maintain Blended Learning to the expectations of the learners.

LIS Teachers' Obligation

- ❖ It is suggested that the Teachers of LIS departments be encouraged to participate in in-service training program particularly on computers and related areas to update their knowledge and skills in order to offer better teaching services to the

expectations of learners. It is suggested that the teachers be encouraged for advanced training in the areas of communication technology further. It is suggested that Teachers be asked to learn the latest ICT as and when they appear in the scene. LIS teachers have to move ahead and take advantage in the application and use of latest technologies like Blogs, Wikis, Podcasting and such others in providing education. This would not only enable students to acquire knowledge in pleasant way but also develop skills of using them and utilize in extending services through these tools in their respective libraries in future. Web based services and web technologies are quintessential nowadays in libraries.

Library and Information Science Department

- ❖ If Blended Learning kinds of techniques are introduced in LIS department, it would bring larger benefits and make the students much more productive and effective. The LIS departments have to redefine their teaching learning policy giving focus to Blended Learning. The policy has to define the ratio between face to face method of teaching and computer mediated method of teaching striking a balance between the two. There should be administrative support/initiative at faculty level. It is recommended that LIS departments have to conduct periodical survey of their learners. Based on the feedback, important decisions have to be taken regarding methods of teaching. In this way, the institution will also come to know of its constraints in teaching and inadequacies in the infrastructure. The techniques of teaching of the LIS schools should be restructured and redesigned incorporating different aspects of Blended Learning in order to develop and prepare our future LIS Professionals to work in the changing environment. The LIS schools should also be revamped by developing expertise and infrastructure in order to carry out the academic programmes both theoretical and practical relating to Blended

Learning way of teaching. In the changing ICT environment, along with basic degree in library and information science additional qualification or training in information technology related areas also should to be considered while recruiting Teachers, in order to serve the IT perceptive education.

Revamping Library and Information Science Education

- ❖ With the impact of Information Communication Technology, the redesigning of LIS education teaching style is formidable. In the present environment to provide ICT based services to the users, the library professionals should have specialized skills. It is essential to introduce ICT based courses in education and training of library professionals. LIS education programs require constant improvement based on new advances in technological innovations. Along with the LIS curriculum, techniques of imparting education must be restructured in such a way giving more importance to practical skills to library professionals.

Change of Attitude, Mindset and Adaptability

- ❖ The attitude need to be changed and congenial environment be created for proper utilisation of Blended Learning in each and every LIS departments of universities of North East India. The mindset of teachers must be changed. This should be taken as challenge and everybody must accept this challenge. Mindset include the core values that direct an individual's thinking, behaviours, actions, and that line up with objective of educational transformation. In Blended Learning, teachers need to appreciate, accept, and execute to mindsets which help them to move towards new form of teaching and learning. Adaptive skills help teachers to tackle new responsibilities and build up key to such situations that require organizational innovation. They are attained through coaching and reflective practice. There is a significant need to move creatively and assertively to tackle and familiarize to these

changes. Successfully responding to these demands involves a change in mind-set and a commitment to reposition higher educational institutions in terms of teaching and learning. Addressing this challenge requires creative and innovative action; it also requires a shift in thinking in the way we conduct the educational endeavour.

Blended Learning Symposium Programme

- ❖ A national symposium programme can be done on Blended Learning with teachers, administrators and stakeholders from all levels of LIS education. Two day symposium on creating, sustaining and enriching a university based Blended Learning curriculum, where nationally recognized speakers, presenters and practitioners from across the country can share their methodologies and implement frameworks as well as hands on demonstration too. This will result in effective way where teachers can create theories, methods, and examples to create a Blended Learning program for their university. They can assess how the best practices in traditional and online learning programs can benefit their own learning community. Thereby they can get themselves enrolled in a professional learning community or forum where they can to continue the discussions that were held at the event when they return to their own place of work. And lastly they can leave with tangible unit plans that integrate Blended Learning for their curriculum.

6.5 SUCCESS FACTORS FOR DESIGNING BLENDED LEARNING IN LIS EDUCATION

The existing challenge for administrators, policymakers, and faculty of higher educational institutions is to acknowledge and accept the significant and irreversible changes in communal demands, funding deficit, competition, technological innovations. Higher educational institutions, especially universities, need to cautiously rethink their post graduate experience, draft policy to guide technological innovation, and carefully develop

model that will preserve the conventional values of higher education. It should be noted that Blended Learning is an approach that can preserve and enhance the traditional values of higher education. When considerately designed, Blended Learning would offer an opportunity to enhance the campus based experience along with extending thinking and learning through the innovative use of Internet and communication technology. There is no “one size fits all” approach that is certain to be successful, nor the fact that success arrives rapidly, but rather is attained through nonstop attempt over a period of time. This requires creative organisational and innovative leadership action; it also requires a shift in thinking in the way we conduct the educational venture. To design effective Blended Learning framework or model for LIS education, there are some factors pertaining to the successful designing of Blended Learning which fall under the following categories:

- ❖ **Institutional Aims and Objectives:** For any institution to succeed in Blended Learning it must have a sense of what aims and objectives it wants to achieve. These may be institutional, faculty, or student related —preferably a mixture of all three. The objectives of both administrators and LIS Teachers must be in position if a Blended Learning plan is to thrive. Though it is inherently challenging to link Blended Learning with institutional policy and success because this mode of teaching and learning is not a familiar one. Lack of initiatives would create gaps in understanding between administration and faculty.
- ❖ **Policy:** There is a need for a formal approach to the development of policies and operations required to support Blended Learning approaches. It requires creation of clear institutional direction and policy. Issues concerning administrative and academic affairs should be distinctively covered up.
- ❖ **Planning:** Planning for integration of Blended Learning principles is a must. It is related to policy. There are two vital levels of planning required to develop and

maintain Blended Learning: strategic and operational planning. While strategic planning involves the recognition of needs, goals, objectives, possible costs and available resources. Cost identification is the most complicated and important. Costs that need to be resolute include technology, delivery model and schedules, human resources (e.g., administrative support, course developers, instructors, and technical assistance), and infrastructure (e.g., hardware/software, Internet access, and space). Operational plans are required to execute the goals and objectives in an action plan. It involves promotional and advertising strategies; creating relationships for shared resources (e.g., registration, fees); managing technology; and creating an effective appraisal process. Effective Blended Learning is about good learning design. It should be thoughtfully applied in relation to precise learning outcomes, learner characteristics, learning environment and resource availability. It is essential to recognize as much as possible about the target audience when designing Blended Learning, their familiarity and comfort level.

- ❖ **Resources:** There is a need to carefully assess the resources to implement and sustain Blended Learning environment. There are three broad groups of resources: financial, human and technical. Financial resources are essential to begin and carry Blended Learning plan, for computers and for instructional design and development which can be easily originated from existing budgets with a reconsideration of precedence and little obligation from administration. Human resources are necessary for the growth and release of Blended Learning courses. Persons with instructional design, curriculum development, and technology skills are required to support LIS Teachers who are new to Blended Learning. Lastly, technical resources which are reliable and clear are necessary to make sure that the learning process

can be enhanced through technology and not to run away from it. It includes up-to-date course management tools and the technical tools which are easy to use.

- ❖ **Scheduling:** A substantial attention should be given to scheduling of courses for a smooth Blended Learning approach. Both administration and LIS Teachers should give thought on how courses to be offered. Blended Learning courses can be scheduled in the traditional format like 3 days a week for 1 hour or can be scheduled in a flexible format where scheduling can be applied in a way that give learners and instructors, the ability to shift time. Designing the learning activities and assessment and developing them as required is a must. Live events, self paced learning and collaboration should be well maintained. An assessment should be made to measure of students' knowledge. Pre-assessments can come before live or self-paced events, to determine prior knowledge, and post-assessments can occur following scheduled or online learning events, to measure learning transfer.
- ❖ **Support:** Implementing the Blended Learning design needs a support system. A support system should be developed and provided to both students and LIS Teachers. This component requires an understanding of the management of Blended Learning course environment along with conditional, temperamental, informational, and institutional obstruction. Students need support in accessing technology, like computer, necessary software, Internet connections, and skills that are necessary to accomplish in a Blended Learning environment. Teachers need support with course development, time management, and technical aid. A support system in terms of course development team can be made for the development of Blended Learning courses comprising of the instructor as content expert, an instructional designer who can assist with course design, and a media specialist who can assist with the technical creation of course materials. Access to other

resources, such as course textbooks, libraries, technical support, and a help-desk number, are also important in Blended Learning.

- ❖ **Evaluation:** Systematic evaluation of contentment and achievement of the teaching, learning, technology and administration of Blended Learning course is essential. While we explore the use of Blended Learning, it is necessary that we assess and evaluate its effectiveness with respect to learning outcomes, student satisfaction, retention and achievement. It is needed for making improvements for the next time.
- ❖ **Technology and Infrastructure:** Two main thoughts that must be taken into account, while designing Blended Learning: the physical space where the learning is primarily to take place, and the technology that will support the learning. There should be adequate computers, able to support multimedia programmes and connected to internet with technical specifications like browsers, operating systems, RAM, screen resolution, media and plug-in. Along with these all there are plenty of other products that need to be provided like content providers: companies or organizations that develop the online curricula and deliver them to students; Student Information Systems: software used to manage student data, such as test scores and schedules e.g. PowerSchool (Pearson), Aeries; Learning Management Systems: Software used to manage, deliver, track and report training and online learning programs e.g. Blackboard, Moodle; Gradebooks: Software used to store and organize student grades e.g. Blackboard, PowerSchool (Pearson); Assessment: Software used to measure students' pre- and post-course knowledge and ability e.g. Blackboard. Technical needs, such as the server that chains the learning program, access to the server, bandwidth and accessibility, security, and other hardware,

software, and infrastructure issues need to be addressed. Blended Learning maximizes the range of learning modes and mediums.

- ❖ **Pedagogy:** Another necessary concern for Blended Learning is pedagogy. The pedagogical element is concerned with the amalgamation of content that has to be delivered (content analysis), the learners' needs (student analysis), and learning objectives (purpose analysis). The pedagogical dimensions also cover the design and strategy aspect of Blended Learning. A good learning design is based on core principles of learning. The type of skills and content, learners require to master would actually manipulate the delivery methods which are selected. Some skills require interaction with teachers, while others may be best learned in a self-paced setting. Diverse phase of the course should utilise the strengths of diverse medium and add value to the learning activities. There should be strong integration between the two environments. A series of actions before, during, after and in grounding for the next face-to-face session should be well described with ideas for slotting in technology so as to strengthen of both environments. A close look into the factors and approaches which can perk up relations between the virtual and physical elements of blended courses. There should be a good mixture of different types of learning process, such as face-to-face teaching, videos, subject specific podcasts, directions for suggested readings, seminars and laboratory work.
- ❖ **Faculty Development:** For a successful Blended Learning design, there is need and importance of continuing professional development for teachers, with enough time for development should also be kept in mind. Teachers' worries of loss of in charge, low student's performance and common nervousness about the impact of online learning on classroom dealings must be taken care of. Teachers' workloads, creation of shareable and reusable digital resources should be taken into

consideration while designing for Blended Learning. Faculty development is a must. We consider that LIS Teachers are specialist in their subject matter which they teach. Faculty development would make sure that blended courses are designed and delivered in a way that helps in its success. It provides an opportunity to LIS Teachers to know about vital issues such as copyright, accessibility, more effective methods of assessment, and such other matters which have not been encountered. Faculty development would lessen the faculty's workload, leading to courses with better plan, student engagement, reliable evaluation, and better student outcomes.

- ❖ **Student Consideration:** For a successful Blended Learning design, consideration should be made for students' learning, their maturity, and their willingness for it. Also what they think about self paced learning, their expectations, their views regarding blended mode of learning, and not to forget their need for learning and time management skills. Reliable and translucent communication about the new prospect is necessary to assist the students in making understand the Blended Learning system.

There is a considerable challenge to the leaders and academicians of higher education institutions. Technologies must play a strategic role in the academic plans of higher education. So, our institutions have to position itself in a way that would help for the transformational changes. The current academic leaders should have the idea, guts, and certainty to position their institutions in the academic leaders in the 21st century. It is predictable that campus-based higher educational institutions will adopt Blended Learning approaches in a major way, once there is clear strategy and strong management, the fruition will be rapid.

6.6 FRAMEWORK FOR BLENDED LEARNING MODEL FOR LIS EDUCATION

To start a Blended Learning program, it requires a study of the need. Based on the need, the model that is right is used. For universities, where traditional course format is being used in maximum with minimum online options: Online Lab Model and Self Blend Model are used. As the surveyed universities show of having maximum traditional course format with little online option, so the researcher proposed a Blended Learning model based on student's self-learning at home. This Blended Learning model is based on self-learning through e-Learning and face-to-face classes. Here a learning process model for designing and developing a blended course for LIS education is discussed. The proposed Blended Learning process model as shown in Figure 6.1 can be used as a reference model for constructing the learning environment in LIS departments of universities of North East India.

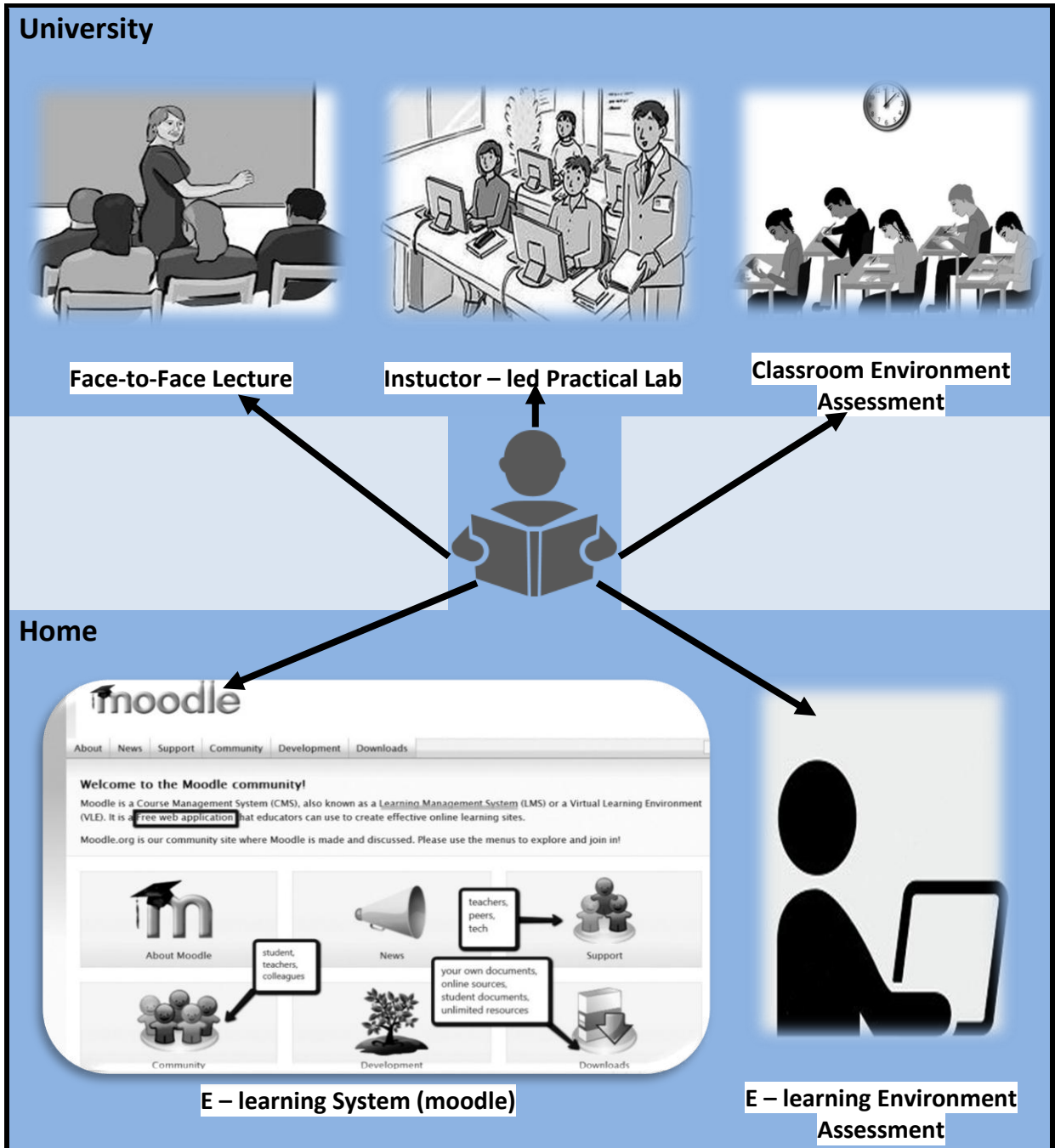


Fig. 6.1: Blended Learning Process for LIS Education

The Blended Learning course based on the proposed model has the following four features:

- i. Firstly, students can study the basic LIS courses which are of theory form in the nature of **Face-to-Face (F2F) lecture** at university.
- ii. Secondly, students can **execute the practical part of lecture** like use of library automation software, digital library software, content management software etc in the **departmental lab** at university.
- iii. Thirdly, teachers can give **lectures and supplementary learning contents** on LIS course by means of **e-Learning environment** or **virtual learning environment (VLE)**.
- iv. Fourthly, the practical part of the lectures can be **visualised or simulated** with the help of **e-Learning environment** which has these features inbuilt upon it. E.g. videos of library work like circulation, RFID, bar coding etc.
- v. Finally, teachers can make **assessment** of the students' preparation by means of **e-learning environment (e.g. self-tests) and classroom environment (e.g. examinations)**.

Along with the above details, the said proposed model has some behind the picture activities, which are equally important, are discussed below to have an engaging Blended Learning model.

- a. Formulation of course contents:** The formulation of course contents of LIS education includes the fundamental course plan and quantity of theory class and lab practical. It also comprises the period of each unit, scheming tests, and homework.

This will help to strengthen the inevitability of the learning procedure. Here, categorizations of the activities are done for student to do in class, online before class and after class.

b. Formulation of e-learning contents: The researcher proposed for an open source Learning Management Software (LMS), MOODLE to host e-Learning contents. The procedure of devising courseware for MOODLE includes the development of learning materials like weekly lectures, tests and other stuffs such as student discussion groups and forums. For a student to use MOODLE, they must first log in and after authorization, the student has to opt for the subject paper they wishes to learn. It consists of parts and each part holds numerous lessons and tests. The online test of LMS includes problem-based questions and assignments.

c. University Activities: The university activities include in-class activities or face-to-face activities and instructor led face-to-face lab. They should use active learning techniques and do the following activities like-

- Instructor-led classroom or coaching/mentoring.
- Composing quick writing responses.
- Working in duos to answer questions or classroom quiz
- Searching online for pertinent information or for some explanation.
- Comparing their notes among themselves.
- Present their research findings through smart room presentation.
- Hands-on labs or Conduct lab experiments.
- Preparing collaboration among students through conducting teamwork and collaborative discussions helping them to know each other so that when/if they meet any group problem they can sort it out easily in their own way.
- Discussion in more details on students' online work.
- Instructor-led group discussions
- Student-led discussions

d. Home Activities: Home activities include online activities through the use of Virtual Learning Environments (VLEs) or Learning Management Software (LMS) and do the following activities like-

- Use wikis and blogs to let students to collaborate in a flexible way barring time and space limits. Working in groups to create a proposal helps in collaborative writing and it portrays students to different writing methods and approaches, providing feedback on their own writing and thoughts.
- Preparing students for face to face activities like providing a few course contents online through video tutorials or documentaries so as to allow students to have a preview of the course material visually beforehand.
- Online quiz before class session to help in motivating students in providing on the spot feedback regarding their understanding of the material.
- Online discussion to put up a range of learning preferences. Asynchronous discussion to permits students with time to think and imitate before responding.
- Online discussions to be documented so that the students and teachers can forever view and assess them.
- Develop self assessment skills through online tools which makes possible in giving instant responses or emailing the same and also receiving feedback on assignments posted online.
- Use synchronous virtual collaboration tools like live online learning, online chat/instant messaging sessions, conference calls, video conferencing, etc.
- Use asynchronous virtual collaboration tools like online discussion boards, e-mail, blogs, wikis, etc.
- Use self-paced asynchronous online tutorials, simulations, online self-assessments, archived webinars, podcasts, CD-ROMS, etc.

- Some of the Blended Learning examples are concept animation, concept demonstration, interactive labs and simulation, online practice test, reading from open access journals, online tutorials, online resources, online database, educational videos, online debate, online encyclopaedia, expert video conferencing, flip class, expert presentations with audience questioning and commenting, expert demonstrations and audience questioning, recorded question and answer sessions, collaborative knowledge building and sharing, etc.
 - Online activities prepare students for face-to-face activities and vice versa.
 - Work together with course content online helps to prepare students face-to-face discussion.
 - Online communications support and widen those that occur in the classroom and vice versa.
- e. Assessment:** The researcher proposed for conducting an assessment of the students at the end of the course via online e-learning environment and classroom environment. Its main motive is to locate their educational progress. Over and above to see to what length the students are tolerant to the learning model based on the Blended Learning format that propels self-learning.

Therefore, it is to be mentioned here that blending of two different teaching methods takes place in a scientific, organized and homogeneous way duly controlled by criteria and standards related to the requirement of the situation. It endeavours at combining formal and informal learning rather than placing them as adversary. A blended course model puts up a wider range of learning styles by offering flexibility, more options for learning, and integration of learning activities that lead to deeper learning. These are just a few techniques that researcher have used to design Blended Learning courses. There are little limitations to the means a Blended Learning program can be organized.

Depending on the kind of blended program a university wants, there will be need to provide teacher to direct students through their courses, or partner teachers to collaborate with online learning.

6.7 IMPLICATION OF FURTHER RESEARCH

The result of the present study allowed the researcher to draw general and specific conclusions and to recommend suggestions for the effective use of Blended Learning and their proper implementation for the benefits of the teachers, students, research scholars, LIS departments, universities and the LIS professionals of North East India. As it is well versed with the fact that research is a never ending process, thus the researcher in the following points recommends that research could also be conducted on these areas in future:

- ❖ The present study is restricted to LIS departments of universities of North East India. However, similar study may be conducted in other regions/areas of India
- ❖ The present study is restricted to awareness of Blended Learning in LIS departments and does not cover other academic departments. Hence, study may be extended to the other departments of North Eastern Universities or other Indian Universities by framing a questionnaire with modifications.
- ❖ It is also recommended future depth studies on various tools of Blended Learning viz. technologies in the classroom, virtual communication tools, social networking software, e-learning system, m-learning should be carried out separately and researcher should be encouraged and supported by Government of India or other funding agencies as it is an important area of research.
- ❖ A comparative study may be conducted between universities under study

- ❖ A comparative study of Blended Learning in central universities versus state universities can be made.
- ❖ A study on evaluation of Blended Learning programmes in developed countries and developing countries can also be made.
- ❖ A study on Blended Learning programmes in secondary level of education can be tried upon.

6.8 IMPLICATIONS FOR PRACTICE

This study is important for teachers, prospective teachers and educational institutions. The outcome of this study would send an important message to the teachers and academic institutions, who are keen on teaching their courses in Blended Learning environment, Teachers could meet considerably different learning preferences, by investigating the views of students and use of varied Blended Learning tools. Teachers could consider all related aspects and include the required components into the program when designing Blended Learning course to facilitate student learning, it would help them to know, how Blended Learning system should be developed.

6.9 CONCLUSION

The concept of ‘any time and from anywhere’ has become the order of the day, so much so that no field gets untouched by its wave. Education is one such field, consequences of which are highly noticed. Of late Blended Learning has become a necessity. This is more so in the sphere of professional courses like library and information science where teachers and researchers would find it essential to have Blended Learning to accomplish their teaching learning process and help them learn professional tasks in an effective way. This trend is gaining importance since the recent past.

The present study provides valuable information on LIS Teachers, students and research scholar’s knowledge, use, views and expectations regarding Blended Learning

and its use in LIS education. We are living in ICT era, so whatever new development comes in our way, we should use it for the betterment of the profession. We should accept the changes, though a healthy infrastructure is required for it to be successful. Blended Learning helps to achieve both theory and practise, which should go parallel. Also continuous up gradation of Blended Learning tools is essential to cope with changing scenario. But while planning such a venture, familiarity of the learners with the environment must be taken into consideration.

Blended Learning should be introduced in educational system with the understanding of both disciplinary needs and diversity. A teacher to make his/her students understand something needs a lot of practical imagination and it is not solely obtained through bookish reason. Thus, Blended Learning is possibly a never-ending fusion of ideas and educational process that can be used to interpret education in that way. Both technological and pedagogical focus should be given priority in Blended Learning. Teachers should have technical competence along with professional ethos and educational attitude. Blended Learning helps the teachers to save time and energy; therefore they should prioritise the benefits to the learners and not to themselves. Teacher plays a huge role in implementing Blended Learning, they should take into consideration existing circumstances or disciplinary variation to improve the learners' knowledge, including the level of implanting educational technology, and to determine which blend will be the most effective one.

Blended Learning is considered to be a vast area of interest for study and to cover all related areas in this particular study is a very demanding job. So there is every chance that the researcher may have failed to spot some of the areas either intentionally or unintentionally. It is therefore acknowledged that due to various limitations, the untouched areas which may be even of much importance and that needed to be covered in the study,

has not been included. Again talking of geographical area, with the passing time, many updates in LIS Schools in North East India have taken place. Along with central universities and state universities, many private universities came up with MLIS course in couple of years. To name a few are Tripura University, Tripura; Himalayan University, Arunachal Pradesh; Assam Women's University, Assam; University of Science and Technology, Meghalaya; ICFAI University, Tripura; Arunachal University of Studies, Arunachal Pradesh; Venketaswara Open University, Arunachal Pradesh.

The present study through its findings and observations, emphasize the need to offer more training opportunities for LIS Teachers and students, to demonstrate, how Blended Learning and its tools can be applied in their works in academic LIS departments of North East India. LIS departments need to make sure teachers, support and effective classroom capacity for the use of Blended Learning tools. LIS departments have to inevitably emphasize in developing infrastructure facilities. Computers, higher bandwidth and adequate number of internet browsing terminals have to be extended to the students and researchers. Feedback from the learners would help to revise the list of Blended Learning tools from time to time. Thus, higher education system must also be customized to suit the next generation of LIS Teachers in regard to professional demands and expectations of students. Nowadays, role of LIS professionals are not mere custodian of knowledge/information but they have to play an important role as information/knowledge manager/consultant which calls for intellectual complexity. Blended Learning through its dynamic approach can groom the future librarian with new means for new challenges and better opportunities. Therefore, we should give second thought and reshape our LIS education in the light of Blended Learning. The LIS departments of universities of North East India must realize the situation and work for extending better and standard platform to its students and research scholars and it is possible only when the Blended Learning is

managed in a convenient way so that teachers and students can carry away teaching learning process smoothly and in the best possible way.

From the study, it is clear that use of Blended Learning tools by LIS Teachers and students in LIS departments in universities of North East India is sluggish and getting impetus slowly. The findings and interpretations of study show that all the objectives proposed at planning stage have been achieved. All the components should be taken into consideration, while planning and organizing Blended Learning. It is most encouraging that majority of the respondents are willing to study LIS in Blended Learning course format. This means that they are interested in learning and getting knowledge on the subject through new means of learning process. In fact they appreciated it over traditional face-to-face method of teaching and learning method. During informal interview and observation of the students, it seemed that the students were more eager to know about this new concept of teaching and learning method. And once they got to know that Blended Learning uses technology in the learning process, it enhanced their content and it reflected on their preferences. Students believed that using Blended Learning in LIS education would motivate them more to acquire knowledge on LIS. So, therefore it's a good sign for the LIS education that students are ready to accept new things. Change and development is a continuous process. Introducing Blended Learning would stimulate and enrich teaching, and move teaching methods closer to today's library science students which would keep students alert. Now the question arises how these needs of students will be addressed by the teachers. Even though Blended Learning is appealing and is hot cake but at the same time it should be embraced by the teachers into classes to reap the benefit. The teachers of LIS need to update and review the teaching and learning method, keeping in touch with the students view. LIS departments should concentrate on building framework for Blended Learning in order to implement them into teaching process. Though it is yet to be proved

that Blended Learning has value and importance in LIS education, but still it is believed that incorporation of traditional face-to-face and technology into the teaching and learning process will move forward LIS education to stand in the near future of competitive world.

The present study through the Blended Learning awareness presented a snapshot illustration of the academician's position in moving away from using only traditional face to face technique to using computer mediated or ICT enabled technique or online learning along with traditional technique in delivering LIS education. The framework for Blended Learning in LIS education is proposed in this study. This framework would link the teachers with the students and research scholars for an effective policy to achieve competitiveness in LIS teaching learning process. The competitiveness could be achieved if LIS learners' needs are aligned suitably with infrastructure requirements and adaptability attitude of parent body or administration and teachers. Perfectly planned Blended Learning in universities would gain better reputation in terms of quality education. From administrative perspective, this study provides narrative approaches for developing Blended Learning programme in the LIS schools. The study provides a unique approach for LIS academicians to mix both traditional face to face and online learning for the fulfilment of ultimate goal of revamping LIS education in the ICT age mainly producing high-calibre information managers of tomorrow and high bang research result for the enhancement of the education system in particular and civilization as a whole.