DATA ANALYSIS AND INTERPRETATION

5.0 INTRODUCTION

The data, after collection, has to be processed and analysed in accordance with the outline laid down for the purpose at the time of developing the study. The term analysis refers to the computation of certain measures along with searching for patterns of relationship that exists among data-groups. In general, analysis of data involves a number of closely related operations, which are performed with the purpose of summarising the collected data and organising these in such a manner that they answer the objectives of the study. The best way to communicate trends in a large collection of data is by creating a chart that summarizes data visually. Here comes the graphical and diagrammatic representation, the most popular tool used for presenting numerical information so that the facts behind the figures can be understood. There are various types of diagrams available for representing data like Bar diagram, Pie diagram, Line diagram, etc.

This chapter deals with the analysis and interpretation of data which have been collected through questionnaire filled by the Teachers, students and research scholars of six LIS departments of six universities of North East India. A total of **307** questionnaires have been collected covering **27 LIS Teachers**, **245 Students** and **35 Research Scholars**. The aim of this survey is to access the awareness, usability and interest on blended learning and its tools by the students and research scholars. The study also intends to find out how far the Teachers of the LIS departments are well versed with these tools and to find out effective blended learning tools so as to prepare draft guidelines on teaching methods which will help to enhance teaching and learning programmes in LIS Departments. The

seven research objectives that were formulated in Chapter-1 handed out to arrange the presentation of the findings. The answer to each objective is based upon the results gained from the analysis and computation of the data collected from the two sets of returned questionnaires. The **first questionnaire** was chosen to collect the data from LIS Teachers, while **second questionnaire** was chosen to gather data from students and research scholars. Descriptive statistics that is frequency and percentage were used to analyze the data.

Analysis of data and findings are presented below in two sections:

1. Survey of LIS Teachers
2. Survey of LIS Students and Research Scholars

5.1 SURVEY OF LIS TEACHERS

Given below are the details of analysis of data drawn from the **27 LIS Teachers** of six LIS departments of six universities of North East India, viz., Assam University (AU); Gauhati University (GU); Dibrugarh University (DU); North Eastern Hill University (NEHU); Manipur University (MU) and Mizoram University (MZU). Data was collected through structured **questionnaire (I)** which was distributed to the LIS Teachers of each University's LIS department. There are a total number of 30 LIS Teachers in six LIS departments of North East India, out of which 29 questionnaires were distributed as one LIS Teacher was not available in the department during the researcher's visit. The researcher received 27 responses from the LIS Teacher with an average response rate of 93%. One of the main objectives of the study is to understand the knowledge and skills on blended learning by the LIS teachers of Universities of North East India.

5.1.1 General Information

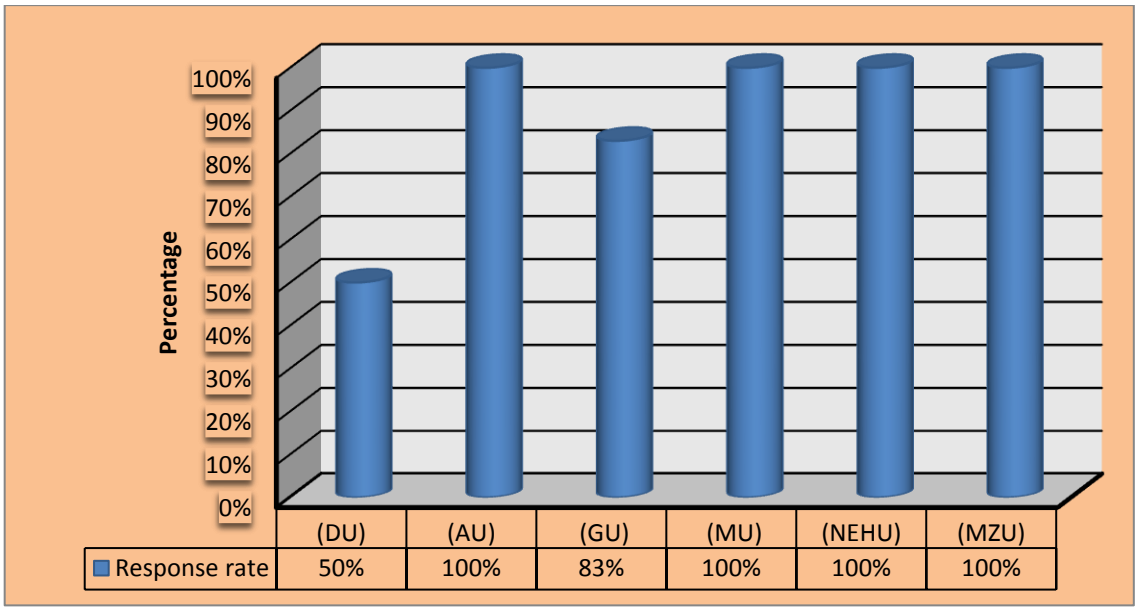
This section of the questionnaire deals with question like name of the university to which the LIS Teacher belongs, their designation, gender and age. The details of analysis and interpretations are given below.

5.1.1.1 *Response Rate*

Table 5.1 gives the response rate of the LIS Teachers in the six universities. Questionnaires were distributed to 29 LIS Teachers. 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) it is 83% and 50% respectively. **Figure 5.1** shows response rate of LIS Teachers

Table 5.1: Response Rate of LIS Teachers

University	Questionnaires distributed	Questionnaires received	Response rate
Dibrugarh University (DU)	2	1	50%
Assam University (AU)	4	4	100%
Gauhati University (GU)	6	5	83%
Manipur University (MU)	4	4	100%
North Eastern Hill University (NEHU)	6	6	100%
Mizoram University (MZU)	7	7	100%
Total	**29**	**27**	**93%**



(DU= Dibrugarh University, **AU=** Assam University, **GU**= Gauhati University, **MU**= Manipur University, **NEHU**= North Eastern Hill University and **MZU**= Mizoram University**)**

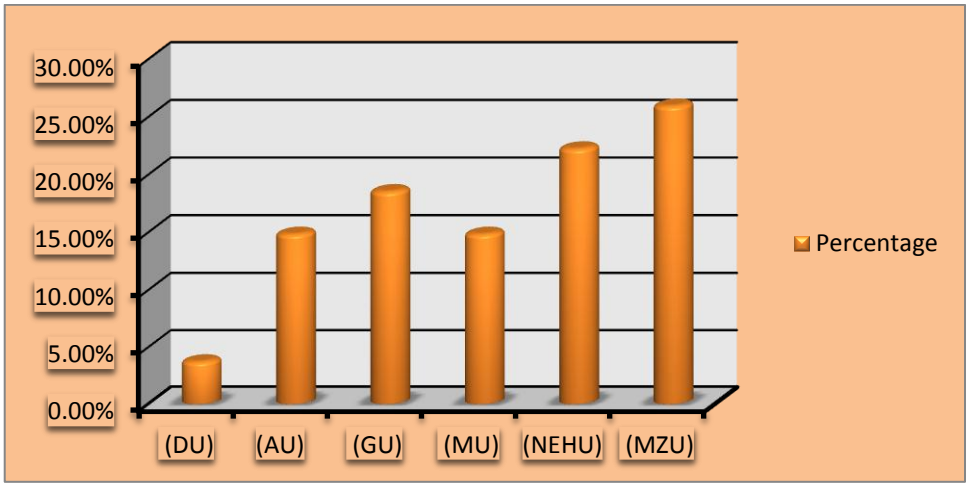
Figure 5.1: Response Rate of LIS Teachers

5.1.1.2 *University Wise Distribution of LIS Teachers.*

LIS Teachers were requested to indicate their university to which they belong to enable the researcher to correlate with the other variables of the questions formulated. **Table 5.2** shows the University wise distribution of LIS Teachers who participated in the survey. 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** shows graphical representation of the same.

Table 5.2: University Wise Distribution of LIS Teachers

University	Frequency	Percentage
Dibrugarh University (DU)	1	3.70%
Assam University (AU)	4	14.82%
Manipur University (MU)	4	14.82%
Gauhati University (GU)	5	18.51%
North Eastern Hill University (NEHU)	6	22.22%
Mizoram University (MZU)	7	25.93%
Total	**27**	**100%**



(DU= Dibrugarh University, **AU=** Assam University, **GU**= Gauhati University, **MU**= Manipur University, **NEHU**= North Eastern Hill University and **MZU**= Mizoram University**)**

Fig 5.2: University Wise Distribution of LIS Teacher

5.1.1.3 *Designation Wise Distribution of LIS Teachers*.

LIS Teachers were requested to indicate their designation to enable the researcher to correlate with the other variables of the questions formulated. **Table 5.3** shows the Designation wise distribution of LIS Teachers who participated in the survey. It displays that 66% of LIS Teachers were Assistant Professors followed by 19% Professors and 15% Associate Professors. It indicates that majority of LIS Teachers were Assistant Professors,

while Professors were minimum. **Figure 5.3** represents the graphical representation of the same.

Table 5.3: Designation Wise Distribution of LIS Teachers

Designation	Frequency	Percentage
Professor	5	19%
Associate Professor	4	15%
Assistant Professor	18	66%
Total	**27**	**100%**

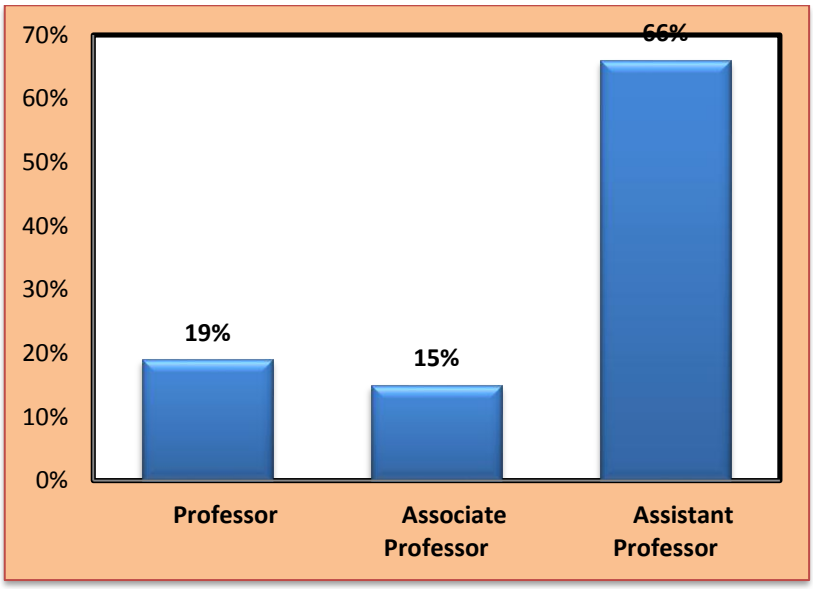


Fig 5.3: Designation Wise Distribution of LIS Teachers

5.1.1.4 *Gender Wise Distribution of LIS Teachers.*

LIS Teachers were requested to indicate their gender to enable the researcher to correlate with the other variables of the questions formulated. **Table 5.4** shows responses to this question. It shows that 74% of LIS Teachers in North East India were male and 26% female. It indicates that in this part of India LIS departments are having male LIS Teachers more than female. **Figure 5.4** shows the graphical representation of the same.

Table 5.4: Gender Wise Distribution of LIS Teachers

Gender	Frequency	Percentage
Male	20	74%
Female	7	26%
Total	**27**	**100%**

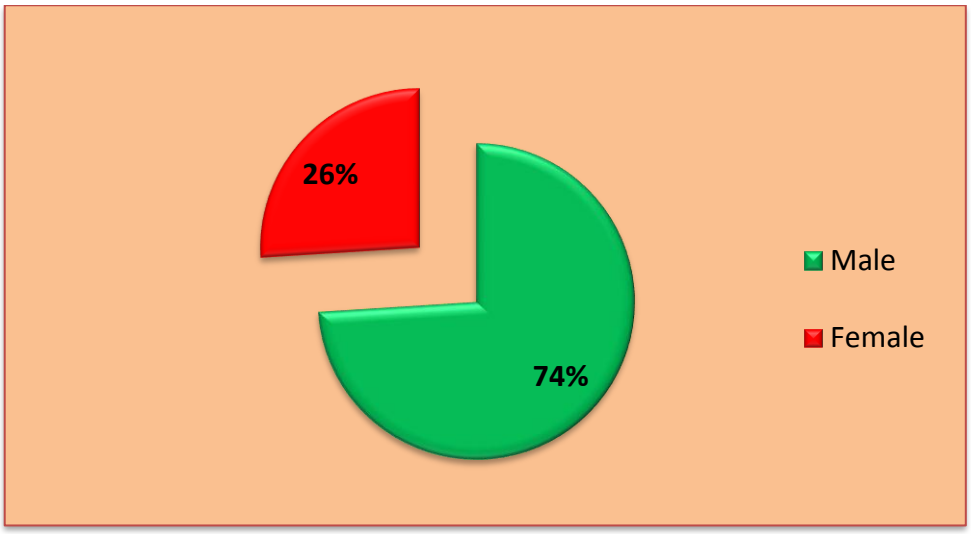


Fig 5.4: Gender Wise Distribution of LIS Teachers

5.1.1.5 ***Age Wise Distribution of LIS Teachers.***

The details of the responses received from LIS Teachers about their age have been given in **Table 5.5.** It reveals that most of the LIS Teacher at the time of survey, 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** shows responses to this question.

Table 5.5: Age Wise Distribution of LIS Teachers

Age Group	Frequency	Percentage
Below 30	1	4%
31-40	12	45%
41-50	9	33%
51-60	2	7%
61 & above	3	11%
Total	**27**	**100%**

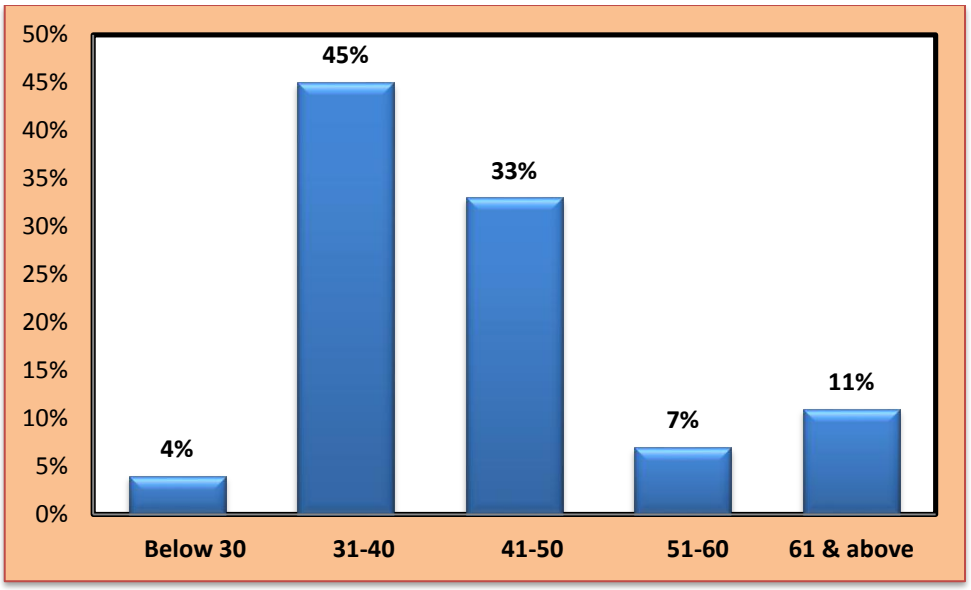


Figure 5.5: Age Wise Distribution of LIS Teachers

5.1.1.6 *Academic Qualification of LIS Teachers*.

LIS Teachers were requested to mention their academic qualification. Details have been given in **Table 5.6** which shows 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** depicts the same.

Table 5.6: Academic Qualification of LIS Teachers

Academic Qualification	Frequency	Percentage
Master Degree	5	19%
M.Phil.	1	4%
Ph.D.	21	77%
Total	**27**	**100%**

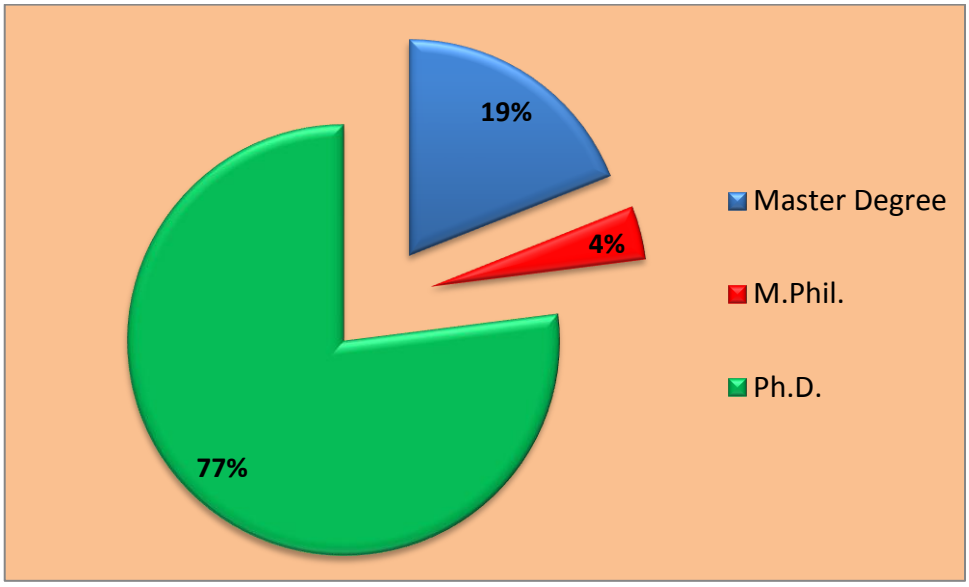


Fig 5.6: Academic Qualification of LIS Teachers

5.1.2 IT Literacy Level and Facilities

This section of the questionnaire deals with questions related to LIS Teachers' IT literacy level and IT facilities they are having in their departments. Questions like use of IT, kind of network connection they use, purpose of IT use, availability of computers and internet and their level of expertise in using computer. The details of analysis and interpretations are given below.

5.1.2.1 *Use of Information Technology (IT) by LIS Teachers*

LIS Teachers were asked to mention about their use of IT. It showed that 100% of LIS Teachers use IT and its facilities.

5.1.2.2 *Places of Using IT*

LIS Teachers were asked to mention about the place where they uses IT. **Table 5.7** shows the responses to this question. It is to be noted here that multiple answers were permitted for this question. So, 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** shows the graphical representation of the same.

Table 5.7: Places of Using IT by LIS Teachers

Places of Using Information Technology (IT)	Responses (N = 27)	Percent
University	25	92.59%
University and Home	20	74.07%
Others	5	18.51%

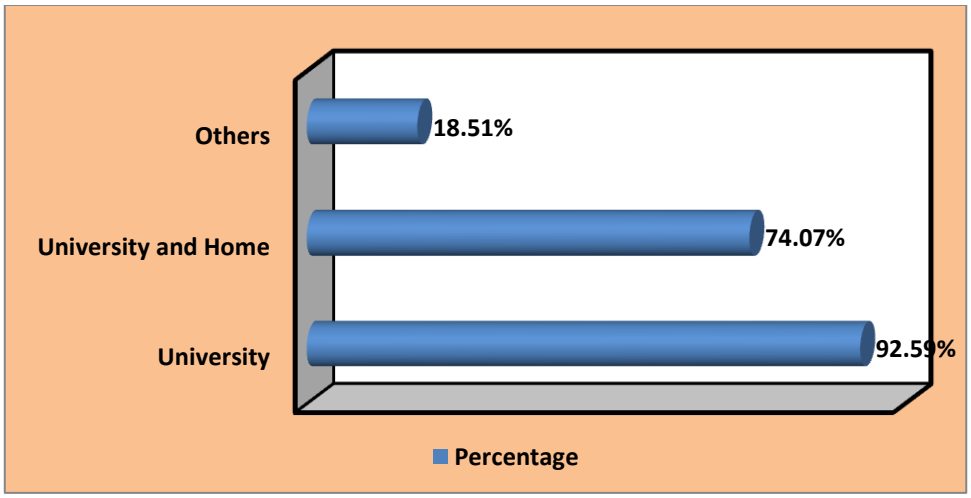


Fig 5.7: Places of Using IT by LIS Teachers

5.1.2.3 *Type of Network Connection LIS Teachers Use*

LIS Teachers were asked to mention about the type of network they use to access Internet. **Table 5.8** shows the responses to this question. It is to be noted here that multiple answers were permitted for this question. So, it is seen 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** shows the graphical representation of the same.

Table 5.8: Type of Network Connection LIS Teachers Use

Type of Network Connection	Responses (N = 27)	Percentage
Dial up	2	7.40%
Broadband	25	92.59%
Others	2	7.40%

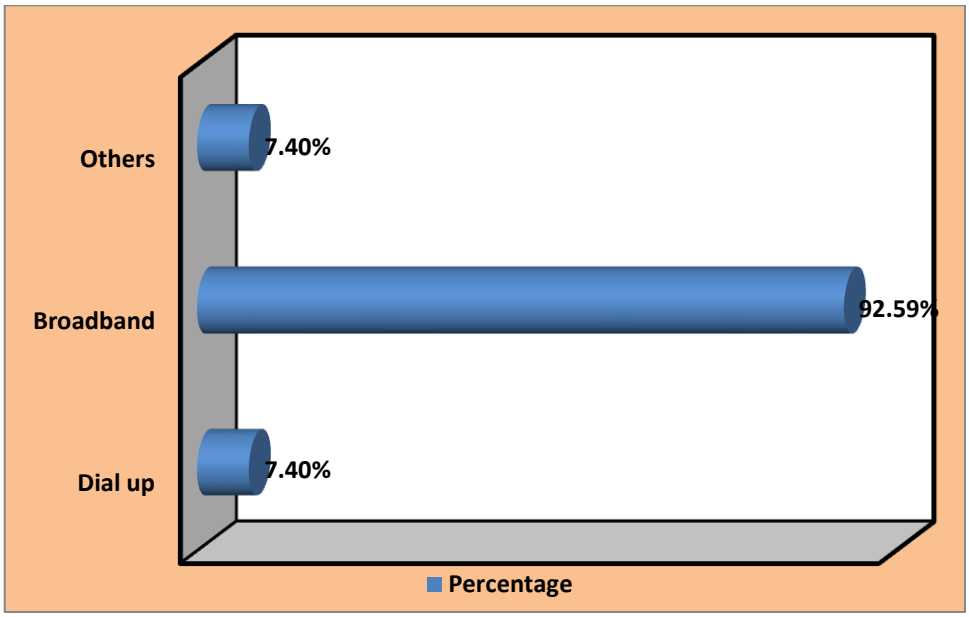


Fig 5.8: Type of Network Connection LIS Teachers Use

5.1.2.4 *Purpose of Information Technology (IT) Use*

LIS Teachers were asked to mention about the purpose of using IT in teaching activities. **Table 5.9** shows the responses to this question. It is to be noted here that multiple answers

were permitted for this question. So, 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. **Figure 5.9** shows the graphical representation of the same.

Table 5.9: Purpose of Using Information Technology (IT) by LIS Teachers

Purpose of Using Information Technology (IT)	Responses (N = 27)	Percentage
Classroom Lectures	26	96.29%
Workshop presentations	20	74.07%
Others	2	7.40%

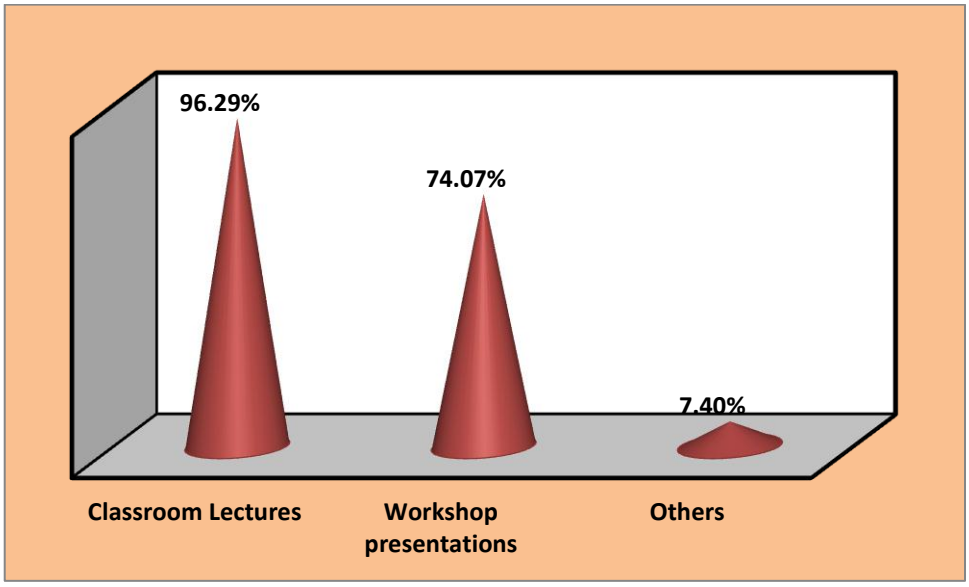


Figure 5.9: Purpose of Using Information Technology (IT) by LIS Teachers

5.1.2.5 *IT Tools and Applications in Syllabus*

LIS Teachers were asked to mention whether there is any course content on IT tools and applications in their syllabus of LIS education. It showed that 100% of LIS Teachers responded with positive reply. Therefore, it shows that all six departments are having IT tools and application in their course content.

5.1.2.6 *Availability of Computers*

LIS Teachers were asked to mention whether computers are available to them and students in their departments. It showed that 100% of LIS Teachers responded with positive reply. Therefore, it reveals that all six departments are having computer facility for their LIS Teachers and students.

5.1.2.7 *Access to High Speed Internet*

LIS Teachers were asked to mention whether they have the access to high speed Internet. It indicates that 100% of LIS Teachers responded with positive reply. Therefore, it reveals that all the LIS Teachers of six departments are having access to high speed internet.

5.1.2.8 *Level of Expertise in Using Computers*

LIS Teachers were requested to mention their level of expertise in using computers. Details have been given in **Table 5.10** which shows that 63% of LIS Teacher has 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** shows the graphical representation of the same.

Table 5.10: Level of Expertise in Using Computers

Level of Expertise in Using Computers	Frequency	Percentage
Novice	1	4%
Intermediate	17	63%
Advanced	9	33%
Total	**27**	**100%**

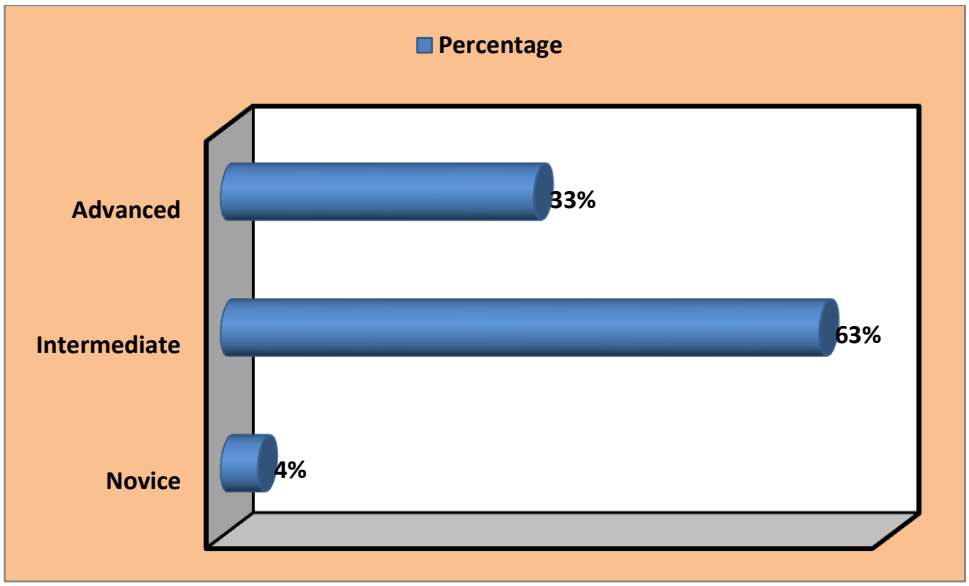


Fig 5.10: Level of Expertise in Using Computers

5.1.3 Familiarity with E-Learning

This section of the questionnaire deals with questions related to LIS Teachers' familiarity with E-Learning. Questions like their experience with e-learning courses, their interest regarding the same and previous experiences with computer and using of the computer in their course or study programme. Basically this section hit upon the familiarity with computer and e - learning of the Teachers and their hands on experience towards it. The details of analysis and interpretations are given below.

5.1.3.1 *Teaching Experience with E-Learning Courses*

LIS Teachers were asked to mention whether they have some teaching experience with e-learning courses. The details of the responses have been shown in **Table 5.11.** It indicates that 74% of LIS Teachers responded with positive reply and 26% responded with negative reply. 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** shows the graphical representation of the same.

Table 5.11: Teaching Experience with E-Learning Courses

Teaching Experience with E-Learning Courses	Frequency	Percentage
Yes	20	74%
No	7	26%
Total	**27**	**100%**

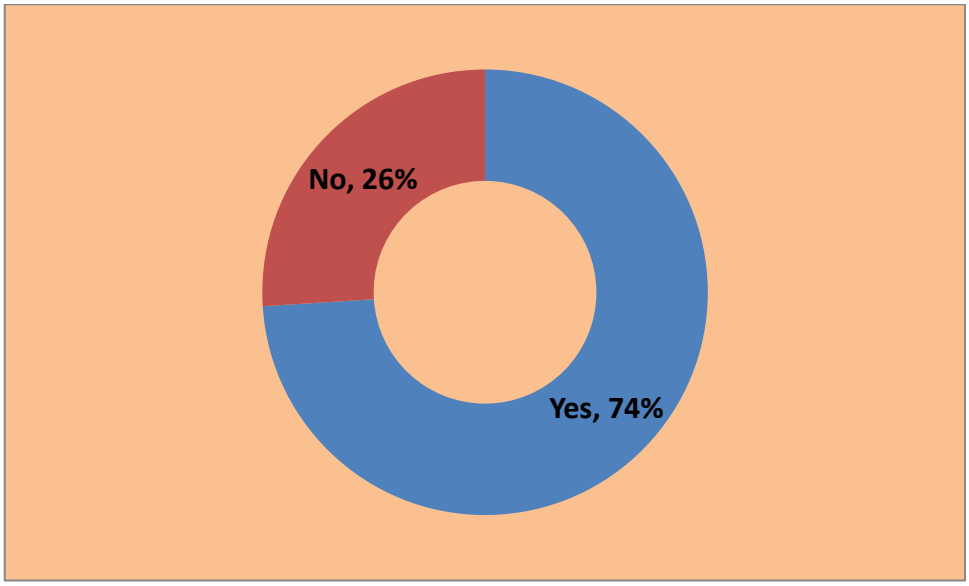


Fig 5.11: Teaching Experience with E-Learning Courses

5.1.3.2 *Interest in E-Learning Teaching*

LIS Teachers were asked to mention whether they are interested in taking part in e-learning teaching. The details of the responses have been shown in **Table 5.12**. It indicates that 96% of LIS Teachers responded with positive reply, 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 e-learning teaching. **Figure 5.12** shows the graphical representation of the same.

Table 5.12: Interest in E-Learning Teaching

Interest in E-Learning Teaching	Frequency	Percentage
Yes	26	96%
No	0	0%
I can't tell	1	4%
Total	**27**	**100%**

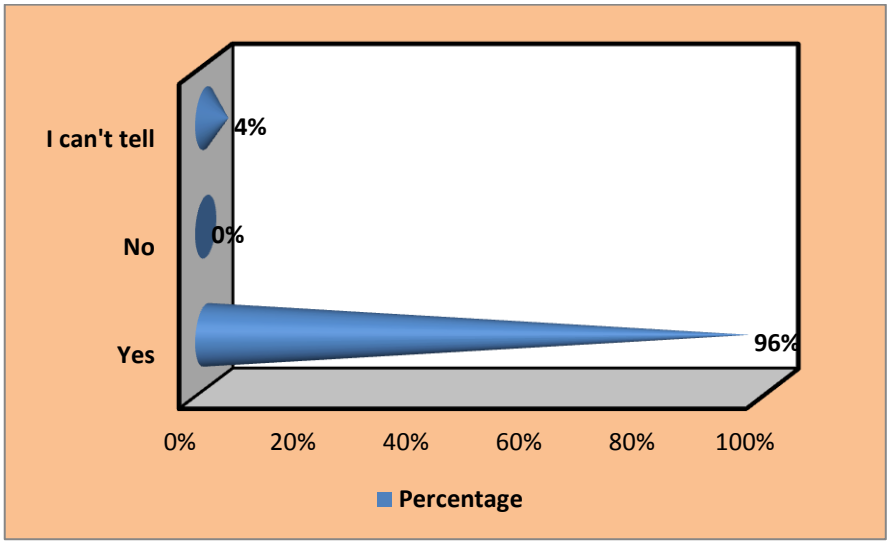


Fig 5.12: Interest in E-Learning Teaching

5.1.3.3 *Experience with Computers*

In the present age LIS Teachers have to acquire computing skills to provide better education to their students. LIS Teachers were asked to mention about their experience with computer. Four categories of questions were designed to know about their hands on experience with regard to computer. The details of the responses have been shown in **Table 5.13**. It indicates that majority of LIS Teachers, 48% access information from the web daily. Again it is seen that majority of LIS Teachers 51% post in asynchronous discussion (e.g. discussion forum) occasionally. It is also seen that majority of LIS Teachers 44% participate in synchronous discussion (e.g. using a chat box) occasionally. Again majority of LIS Teachers 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** shows the graphical representation of the same.

Table 5.13: Experience with Computers

Categories	Novice		Occasionally		Frequently		Daily		Total
	Nos.	%	Nos.	%	Nos.	%	Nos.	%	
In accessing information from the web	2	(7%)	3	(12%)	9	(33%)	**13**	**(48%)**	27 100%
In posting in asynchronous discussion (e.g. discussion forum)	3	(12%)	**14**	**(51%)**	3	(12%)	7	(25%)	27 100%
In participating in synchronous discussion (e.g. using a chat box)	5	(19%)	**12**	**(44%)**	8	(30%)	2	(7%)	27 100%
In uploading a file / resource to a web site	3	(12%)	**14**	**(51%)**	7	(25%)	3	(12%)	27 100%

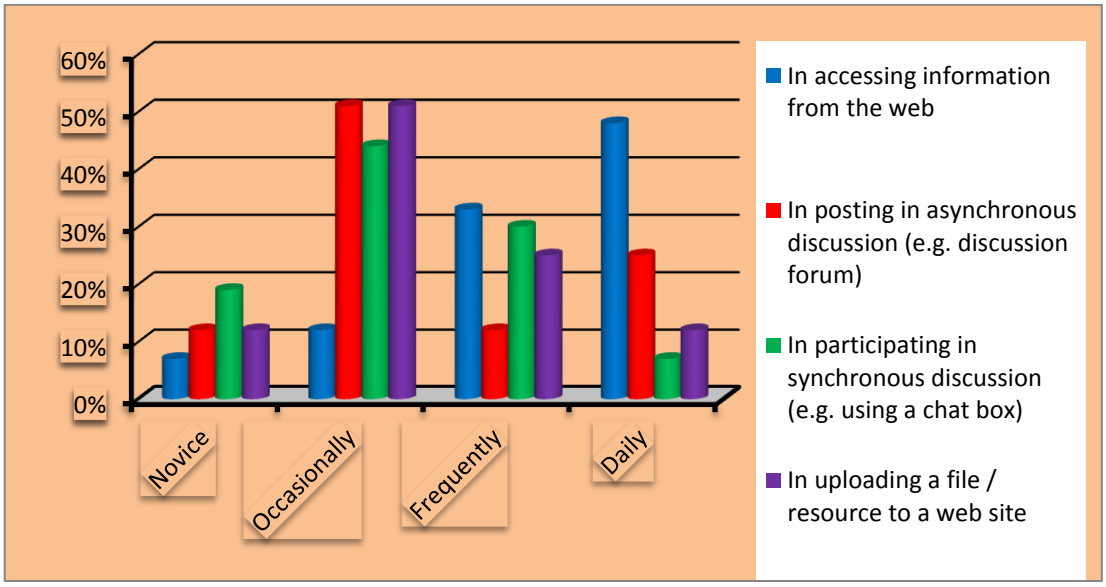


Fig 5.13: Experience with Computers

5.1.3.4 *Previous Experience in using Computers in a course/study programme*

LIS Teachers were asked to mention about their previous experience in using computers in a course/study programme. Four categories of questions were designed to know about that. The details of the responses have been shown in **Table 5.14**. It indicates 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 i.e., 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** shows the graphical representation of the same.

Table 5.14: Previous Experience in using Computers in a course/study programme

Categories	**Yes**		**No**	
	Frequency	**%**	**Frequency**	**%**
Taught courses which involve the use of a discussion forum	13 (48%)		**14 (52%)**	
Taught courses which involve the use of chat (synchronous discussion)	6 (23%)		**21 (77%)**	
Taught courses in which course materials and resources have been delivered online (i.e. within VLE)	**14 (52%)**		13 (48%)	
Taught courses which have a self-assessment programme to test students' learning	9 (33%)		**18 (67%)**	

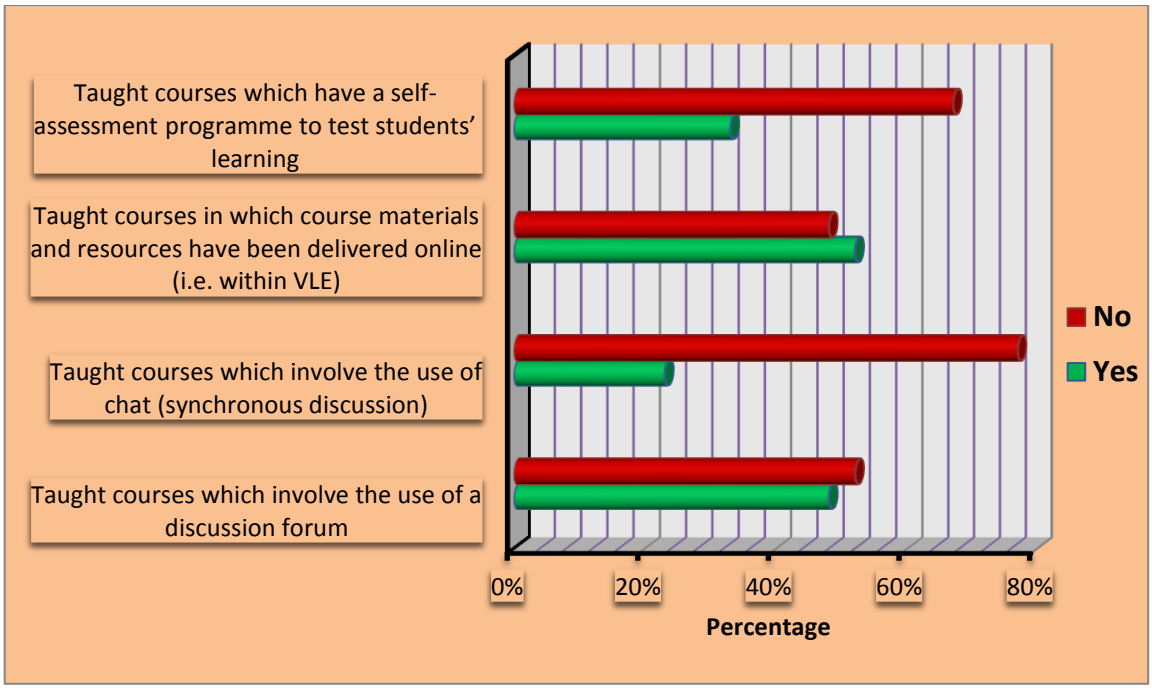


Fig 5.14: Previous Experience in using Computers in a course/study programme

5.1.4 Blended Learning Awareness

This section of the questionnaire deals with questions related to LIS Teachers' awareness with Blended Learning. Questions like their knowledge of blended learning, appreciation, use of blended learning tools, thoughts related to this kind of learning, their choices, challenges and lastly their valuable opinions and suggestions. Basically this section largely talks of the Blended learning and LIS Teachers' attitude towards this kind of learning. The details of analysis and interpretations are given below.

5.1.4.1 *Knowledge of Blended Learning by LIS Teachers*

LIS Teachers were asked to mention about their knowledge of Blended learning. The details of the responses have been shown in **Table 5.15**. Out of the 27 LIS Teachers (96%) know about what blended learning is. Rests (4%) of are unaware of blended learning. Therefore from the table it is clear that a good majority of the LIS Teachers of North East

India have knowledge of Blended Learning. **Figure 5.15** shows the graphical representation of the same.

Table 5.15: Knowledge of Blended Learning by LIS Teachers

Knowledge of Blended Learning	Frequency	Percentage
Yes	26	96%
No	1	4%
Total	**27**	**100%**

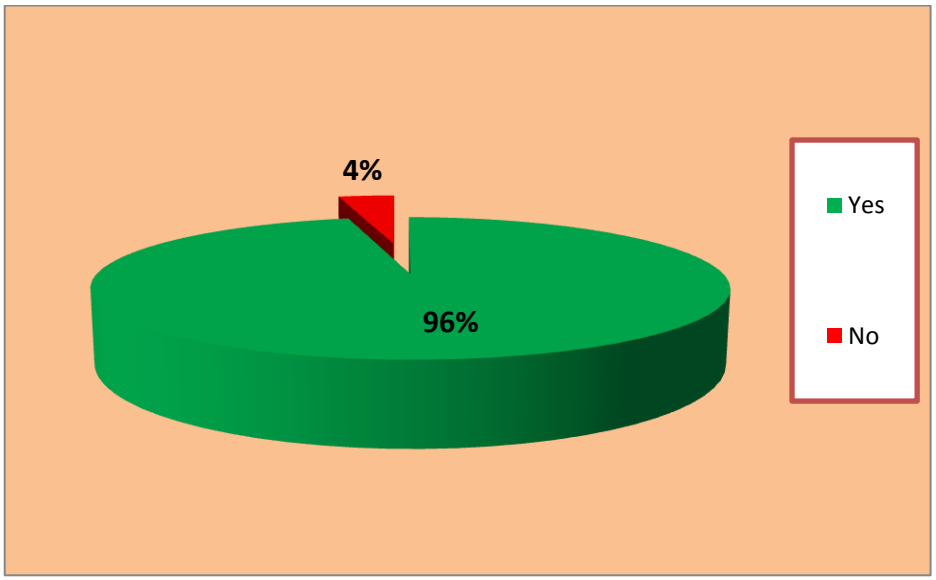


Fig 5.15: Knowledge of Blended Learning by Faculty

5.1.4.2 *Appreciation of Blended Learning in Comparison to Traditional Learning*

Here, it reveals the appreciation of Blended learning in comparison to traditional learning; based on the replies of those who are aware about Blended learning. A follow up question aimed at asking LIS Teachers "If yes, would they appreciate Blended Learning in compared to the traditional one?" It's seen that out of 26 LIS Teachers who have answered the previous question positively, 100% of them would 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.

5.1.4.3 *Introduction Blended Learning Course in Future*

LIS Teachers were asked to mention whether they would intend to introduce Blended learning course in the future. The details of the responses have been shown in **Table 5.16.** Majority of the LIS Teachers i.e., 48% opined positively and said that they 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 from the table 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** shows the graphical representation of the same.

Table 5.16: Introduction of Blended Learning Course in Future

Introduce Blended Learning Course in Future	Frequency	Percentage
Yes, within 2 years	13	48%
Yes, but no earlier than after 2 years	7	26%
No	0	0%
I don't know	7	26%
Total	**27**	**100%**

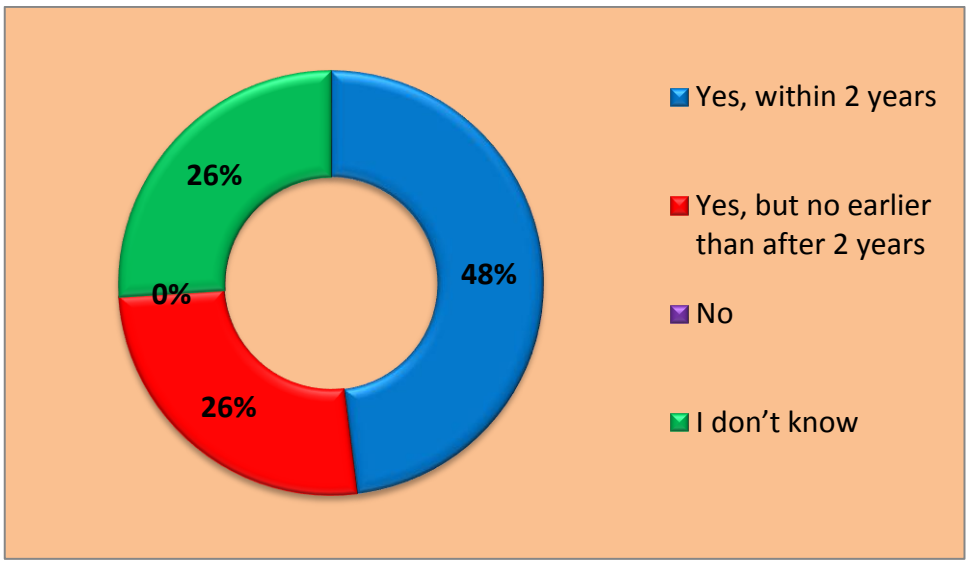


Fig 5.16: Introduction of Blended Learning Course in Future

5.1.4.4 *View on Blended Learning by Teachers*

LIS Teachers were asked to mention their views and thoughts with regard Blended learning. They were asked four questions related to blended learning on which they were to agree or disagree. The details of the responses have been shown in **Table 5.17**. The first question was "Do you think that the role of teacher will be changed by embedding educational technologies into the teaching and learning practices?" On reply to this majority of the LIS Teachers i.e., 78% agreed upon it and 22% disagreed. Second question was "Do you think that the blended learning (such as blog, wiki, e-community, email in learning and teaching) can help in developing your students in a holistic manner?" On reply to this majority of the LIS Teachers i.e., 96% agreed upon it and 4% disagreed. Third question was "Do you think that the tool of blended learning will provide a platform for better and quality education?" To this majority of the LIS Teachers i.e., 93% agreed upon it and 7% were vague towards it. Fourth question was "Do you think Blended learning will help knowledge co-construction" To this majority of the LIS Teachers i.e., 89% agreed upon it and 11% were vague towards it. Therefore from the table 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 their views and thoughts are positive towards blended learning, which is really a healthy sign. **Figure 5.17** shows the graphical representation of the same.

Table 5.17: View on Blended Learning by Teachers

Categories	Agree No | %	Disagree No | %	Undecided No | %	Total No | %
Role of teacher will be changed by embedding educational technologies into teaching and learning practices	**21 (78%)**	6 (22%)	-	27 (100%)
Blended learning (such as blog, wiki, e-community, email in learning and teaching) can help in developing your students in a holistic manner.	**26 (96%)**	1 (4%)	-	27 (100%)
Blended learning can provide a platform for better and quality education.	**25 (93%)**	-	2 (7%)	27 (100%)
Blended learning can help knowledge co-construction.	**24 (89%)**	-	3 (11%)	27 (100%)

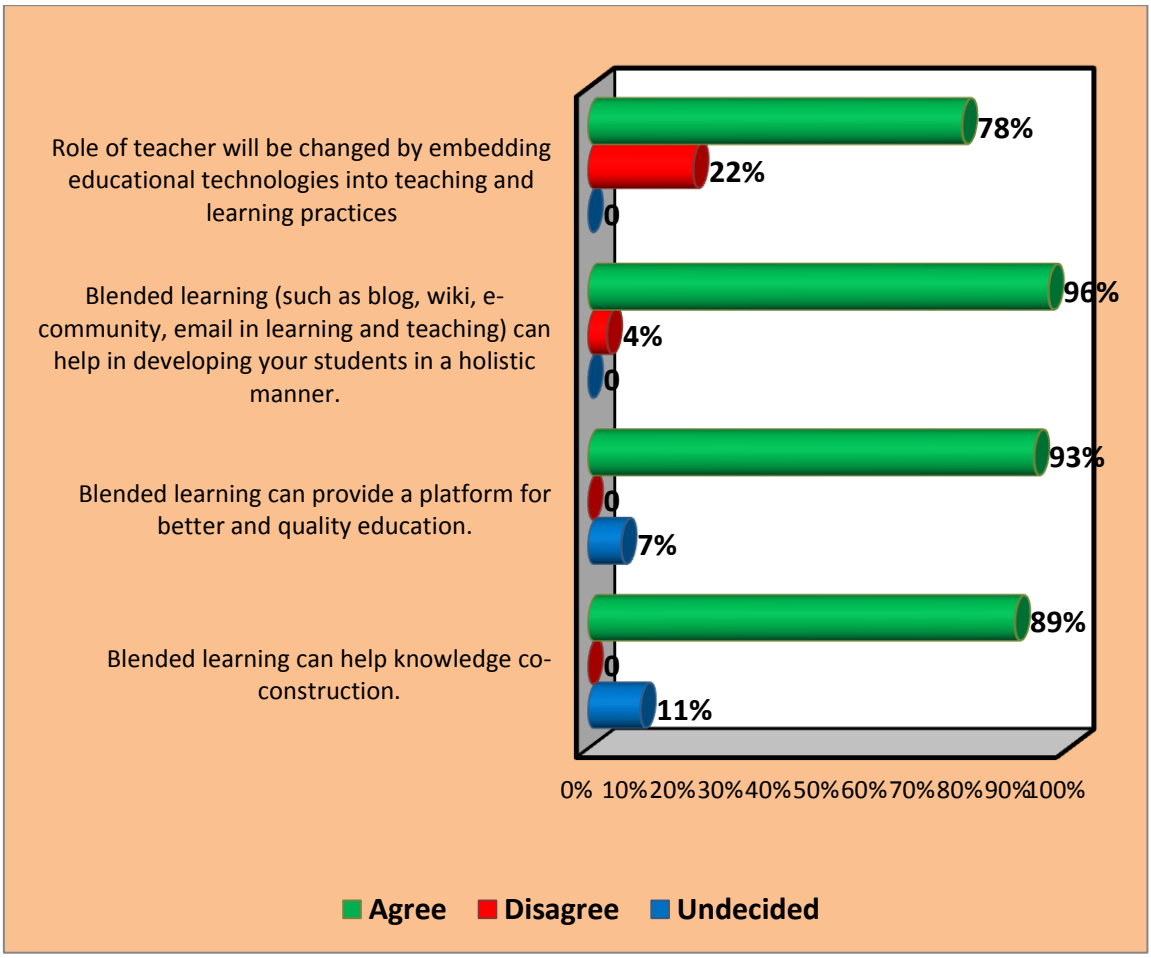


Fig 5.17: View on Blended Learning by Teachers

5.1.4.5 *Choice between Giving Lectures Face to Face/Online/Combination of Both*

LIS Teachers were asked to mention their choice among three different methods of giving lectures. The question goes like "If you had a choice between giving lectures face-to-face or giving lectures online or a combination of both which would you choose?" The details of the responses have been shown in **Table 5.18.** Majority of the LIS Teachers that is (63%), opted a method which combines both face to face and online. Again 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 from the table 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** shows responses to this question.

Table 5.18: Choice between Giving Lectures Face to Face/Online/Combination of Both

Choice of giving Lectures	Frequency	Percentage
Giving lectures face-to-face	10	37%
Giving online downloadable videos of lectures	0	0%
A combination of both	17	63%
Total	**27**	**100%**

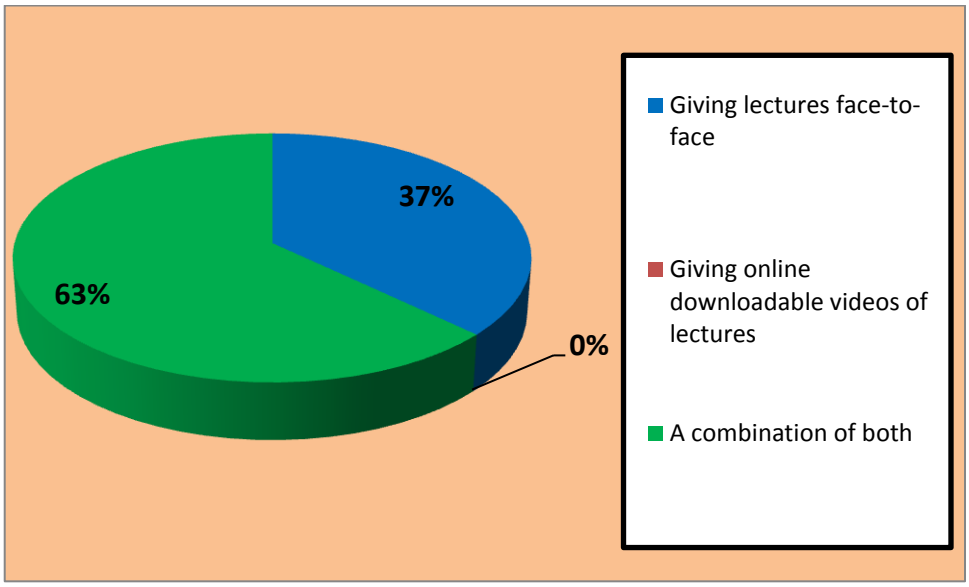


Fig 5.18: Choice between Giving Lectures Face to Face/Online/Combination of Both

5.1.4.6 *How Prepared for Blended Learning at Own University*

LIS Teachers were asked to mention how much they are prepared to use blended learning platform in their university. The question goes like "How prepared do you feel you are to use the blended learning platform at your university?" The details of the responses have been shown in **Table 5.19**. Majority of the LIS Teachers i.e., 55% opted that they are somewhat prepared, again 41% viewed that they are very much prepared and 4% of the LIS Teachers stated that they are not prepared for it. Therefore from the table 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** shows the graphical representation of the same.

Table 5.19: How Prepared for Blended Learning at Own University

Option	Frequency	Percentage
Not Prepared	1	4%
Somewhat Prepared	15	55%
Very much Prepared	11	41%
Total	**27**	**100%**

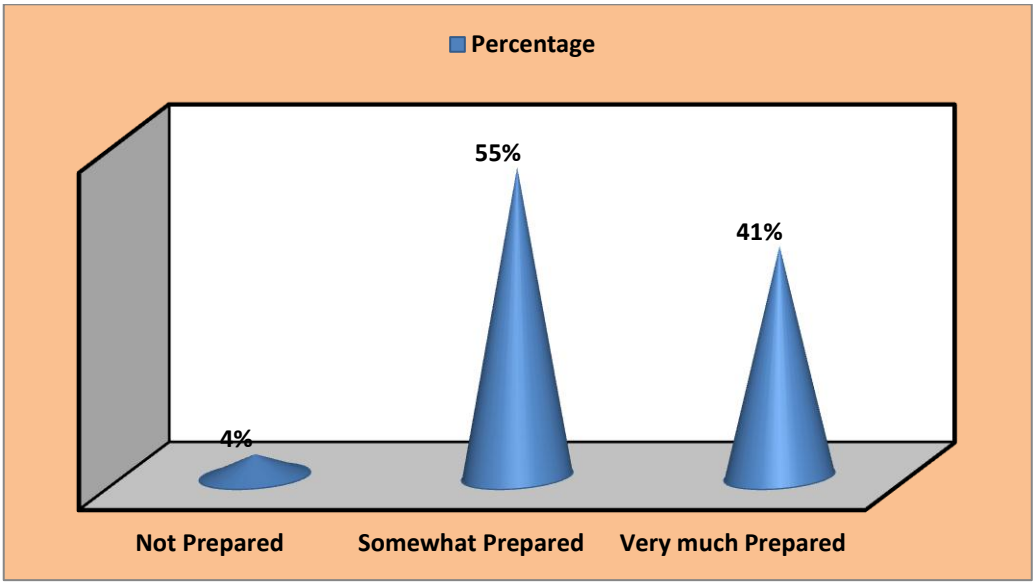


Fig 5.19: How Prepared for Blended Learning at Own University

5.1.4.7 *Requirement of Technology and Training for Teaching in Blended Format*

LIS Teachers were asked to mention whether additional support, technology and training are required to help them in teaching using blended format. The question goes like "Is there any additional support, technology, or training you feel could be provided that could help you in your teaching using blended format?" The details of the responses have been shown in **Table 5.20.** Majority of the LIS Teachers i.e., 81% opted that yes they require

additional support and training, again 19% viewed 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 trough training and technology for teaching using blended format. **Figure 5.20** shows the graphical representation of the same.

Table 5.20: Requirement of Technology and Training for Teaching in Blended Format

Option	Frequency	Percentage
Yes	22	81%
No	5	19%
Total	**27**	**100%**

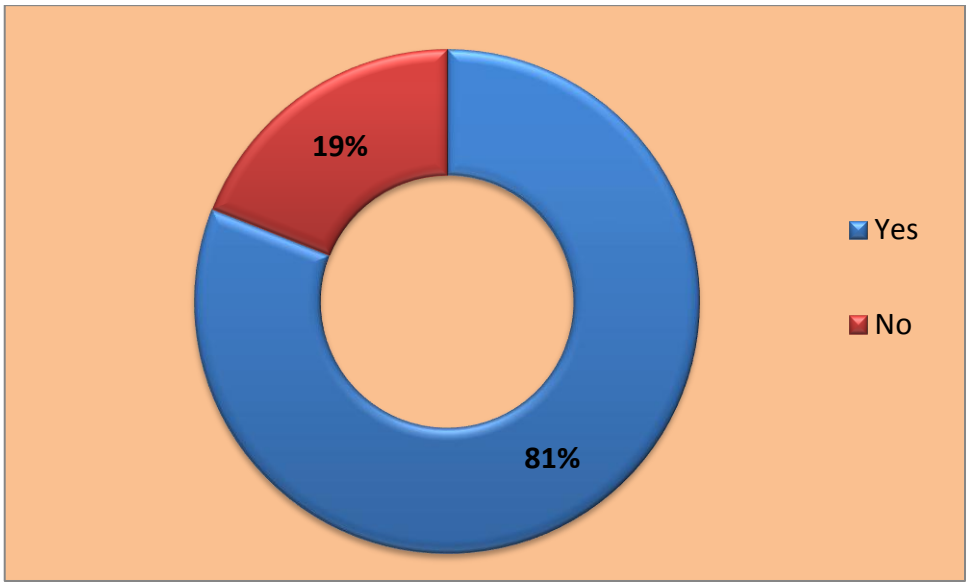


Fig 5.20: Requirement of Technology and Training for Teaching in Blended Format

5.1.4.8 *Course Format in Use in Universities*

LIS Teachers were asked to mention about the type of course format they use in their university to what extent. Three types of course format along with extent level were given them to choose from. The details of the responses have been shown in **Table 5.21**. In case

of Traditional course format it is seen that majority of LIS Teachers i.e., 85% stated to use it in full extent. In case of Blended course format, majority of the LIS Teachers i.e., 74% were seen to use it in some extent. While in case of online course format it is seen that majority of the LIS Teacher i.e., 70% stated that they have not used it at all, while 30% of them stated to 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 computers to some extent. This shows blended course format is being used to certain level in these universities. **Figure 5.21** shows the graphical representation of the same.

Table 5.21: Course Format in Use in Universities

Type of Course	Full Extent		Some Extent		Not at all		Total	
	Nos.	%	Nos.	%	Nos.	%	Nos.	%
Traditional	**23**	**(85%)**	4	(15%)	-		27	(100%)
Blended	4	(15%)	**20**	**(74%)**	3	(11%)	27	(100%)
Online	-		8	(30%)	**19**	**(70%)**	27	(100%)

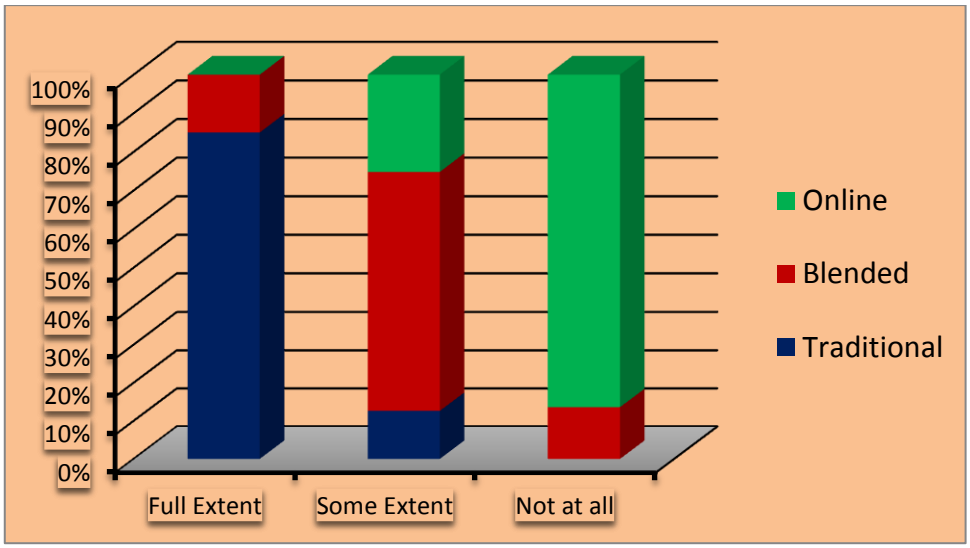


Fig 5.21: Course Format in Use in Universities

5.1.4.9 *Use of Technologies in Classroom While Teaching*

LIS Teachers were asked to mention about the different technologies they use in classroom while teaching. The details of the responses have been shown in **Table 5.22.** It indicates that most popular among the technologies in the classroom is PowerPoint i.e., 96% followed by Interactive White Board i.e., 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. **Figure 5.22** shows the graphical representation of the same.

Table 5.22: Use of Technologies in Classroom While Teaching

Technologies in the classroom	Not known		Not used		Used		Total	
	Nos.	%	Nos.	%	Nos.	%	Nos.	%
PowerPoint	0		1	(4%)	**26**	**(96%)**	27	(100%)
Interactive whiteboard (IWB)	0		11	(41%)	**16**	**(59%)**	27	(100%)
Audience response system	0		**27**	**(100%)**	0		27	(100%)

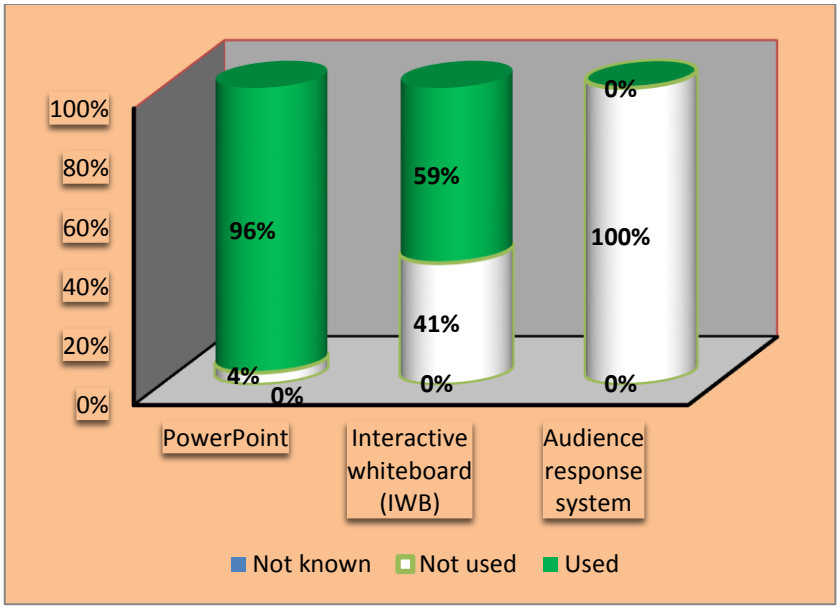


Fig 5.22: Use of Technologies in Classroom While Teaching

5.1.10 *Use of Virtual Communication Tools While Teaching*

LIS Teachers were asked to mention about the different virtual communication tools they use while teaching. The details of the responses have been shown in **Table 5.23**. Here, two LIS Teachers have not responded so the total number of respondents for this question is 25.It indicates that most popular among the virtual communication tools is Email i.e., 88% followed by Plagiarism Detection Software is with 48%, Chat or conferencing is with 44%, Audio files and Polling and questionnaire are with 40%. Not used is Videoconferencing with (100%) response followed by Discussion boards (80%). Therefore, it shows that email is lucratively used by the LIS Teachers as teaching aid. **Figure 5.23** shows the graphical representation of the same.

Table 5.23: Use of Virtual Communication Tools While Teaching

Virtual communication tools	Not known		Not used		Used		Total	
	Nos.	%	Nos.	%	Nos.	%	Nos.	%
Audio files	-		**15**	**(60%)**	10	(40%)	25	(100%)
Discussion boards	-		**20**	**(80%)**	5	(20%)	25	(100%)
Chat or conferencing	-		**14**	**(56%)**	11	(44%)	25	(100%)
E-mails	-		3	(12%)	**22**	**(88%)**	25	(100%)
Polling and questionnaire	-		**15**	**(60%)**	10	(40%)	25	(100%)
Videoconferencing	-		**25**	**(100%)**	0		25	(100%)
Plagiarism Detection Software	-		**13**	**(52%)**	12	(48%)	25	(100%)

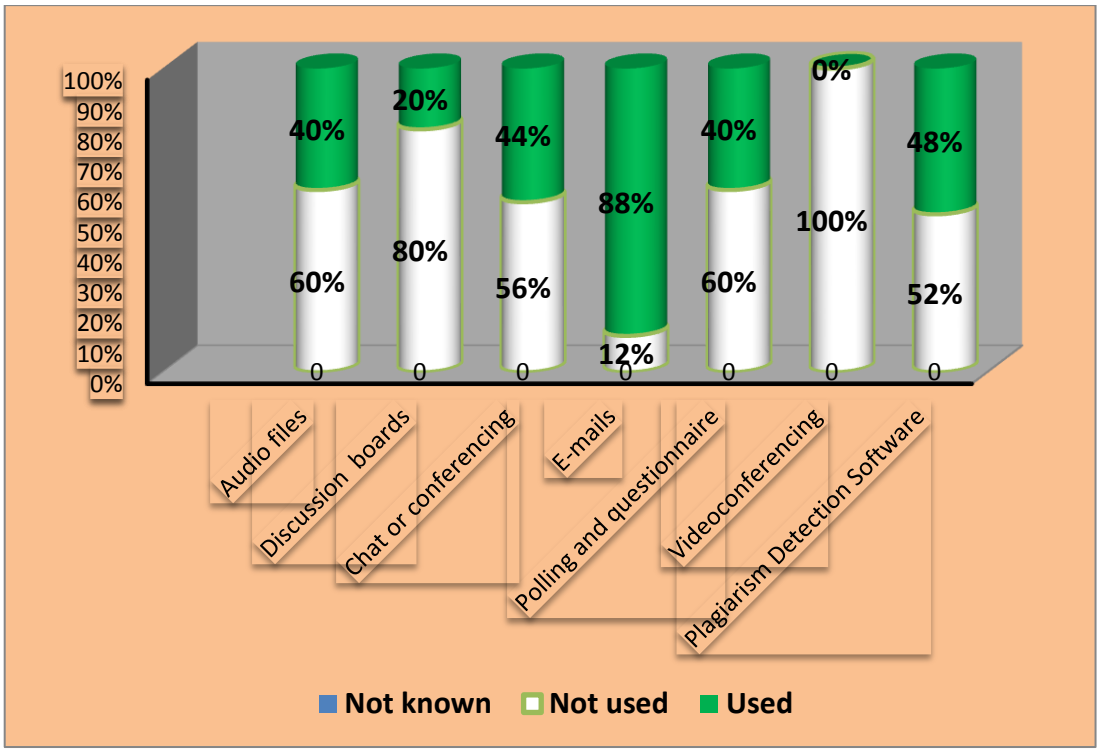


Fig 5.23: Use of Virtual Communication Tools While Teaching

5.1.11 *Use of Social Networking Software While Teaching*

LIS Teachers were asked to mention about the different social networking software they use while teaching. The details of the responses have been shown in **Table 5.24**. Here, three LIS Teachers have not responded so the total number of respondents for this question is 24. It indicates that most 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 followed by Video clips with 54%. Therefore, it shows that instant messaging and phone calls is lucratively used by the LIS Teachers as teaching aid. **Figure 5.24** shows the graphical representation of the same.

Table 5.24: Use of Social Networking Software While Teaching

Virtual communication tools	Not known		Not used		Used		Total	
	Nos.	%	Nos.	%	Nos.	%	Nos.	%
Instant messaging and phone calls	-		6	(25%)	**18**	**(75%)**	24	(100%)
Podcasts	-		**24**	**(100%)**	0		24	(100%)
Social-networking sites	-		7	(29%)	**17**	**(71%)**	24	(100%)
Video clips	-		**13**	**(54%)**	11	(46%)	24	(100%)
Weblogs	-		8	(33%)	**16**	**(67%)**	24	(100%)
Wikis	-		9	(37%)	**15**	**(63%)**	24	(100%)

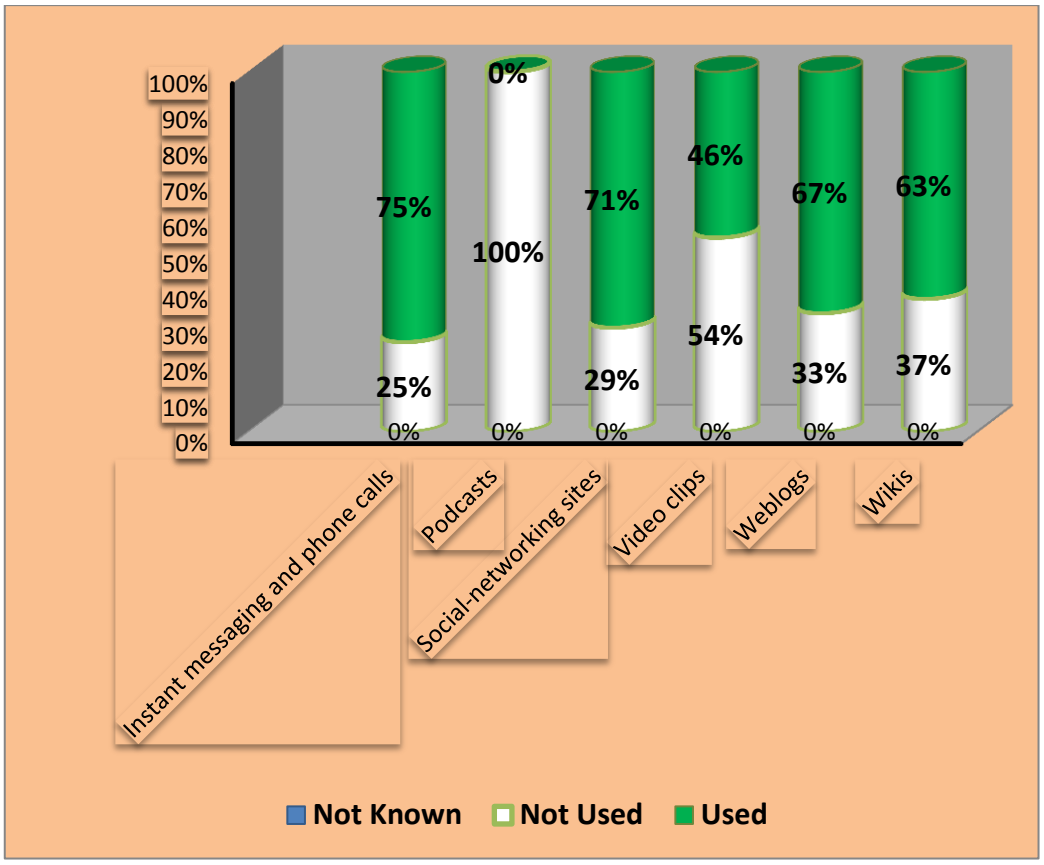


Fig 5.24: Use of Social Networking Software While Teaching

5.1.4.12 *Use of E-Learning Systems While Teaching*

LIS Teachers were asked to mention about the different E-Learning Systems they use while teaching. The details of the responses have been shown in **Table 5.25**. Here, three LIS Teachers have not responded so the total number of respondents for this question is 24. It indicates that most 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%. Least 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 lucratively used by the LIS Teachers as teaching aid. **Figure 5.25** shows the graphical representation of the same.

Table 5.25: Use of E-Learning Systems While Teaching

E-Learning Systems	Not known		Not used		Used		Total	
	Nos.	%	Nos.	%	Nos.	%	Nos.	%
Virtual Learning Environments e.g. blackboard	0		14	(58%)	**10**	**(42%)**	24	(100%)
Conferencing systems e.g. iCohere	1	(4%)	**23**	**(96%)**	0		24	(100%)
Group Collaboration Software e.g. Lotus Notes	1	(4%)	**23**	**96%)**	0		24	(100%)
Group sites e.g. Google groups	0		10	(42%)	**14**	**(58%)**	24	(100%)

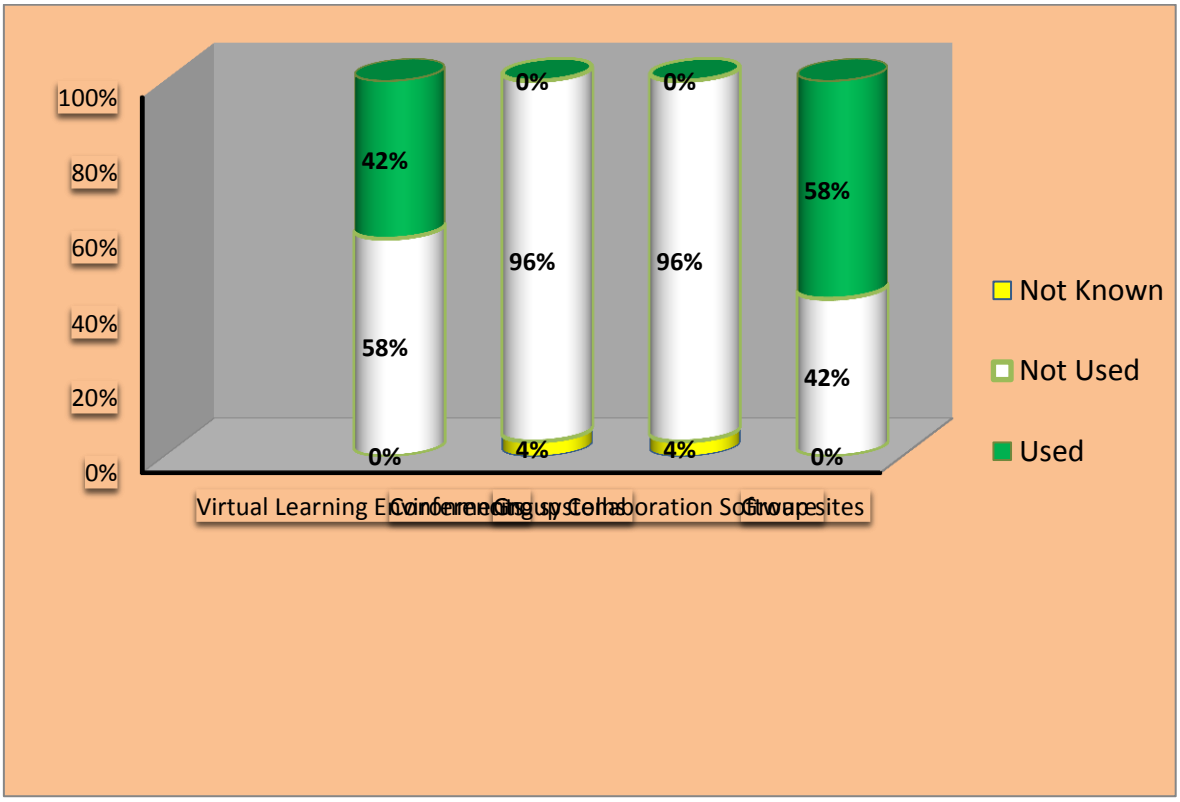


Fig 5.25: Use of E-Learning Systems While Teaching

5.1.4.13 *Use of Mobile Learning While Teaching*

LIS Teachers were asked to mention about the different Mobile Learning they use while teaching. The details of the responses have been shown in **Table 5.26**. It indicates that most 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** shows the graphical representation of the same.

Table 5.26: Use of Mobile Learning While Teaching

E-Learning Systems	Not known		Not used		Used		Total	
	Nos.	%	Nos.	%	Nos.	%	Nos.	%
Mobile phones	-		9 (36%)		**16 (64%)**		25 (100%)	
Laptops	-		3 (12%)		**22 (88%)**		25 (100%)	
Personal digital assistants(PDA) e.g. Apple's Newton	-		**25 (100%)**		0		25 (100%)	
Tablet PCs	-		13 (52%)		**12 (48%)**		25 (100%)	
MP3 e.g. iPods	-		**25 (100%)**		0		25 (100%)	

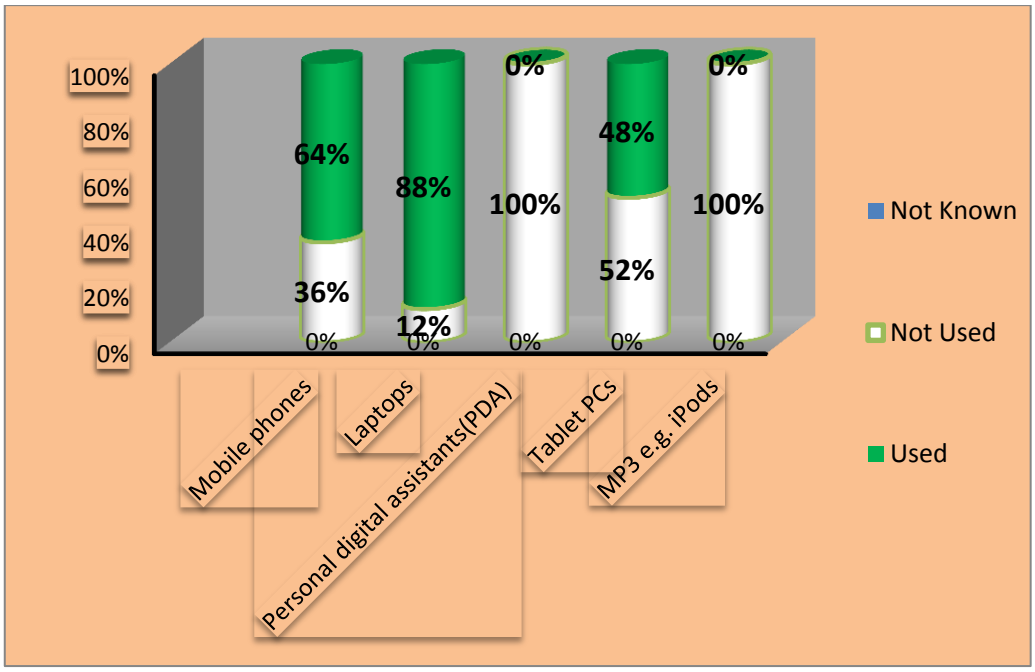


Fig 5.26: Use of Mobile Learning While Teaching

5.1.4.14 *Challenges in Effective Use of Blended Learning by Teachers*

LIS Teachers were asked to mention about the challenges that are in the path of effective use of blended learning in LIS education. **Table 5.27** shows the responses to this question. It is to be noted here that multiple answers were permitted for this question. So, 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 LIS Teacher 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%, unable to relate blended learning applications with teaching with 7%. **Figure 5.27** shows the graphical representation of the same.

Table 5.27: Challenges in Effective Use of Blended Learning by LIS Teachers

	Problems (Rank wise)	Responses (N = 27)	Percentage
a)	Lack of training programmes for teachers to use/teach Blended learning tools	19	70%
b)	Lack of technical support/advice	16	59%
c)	Lack of infrastructure	16	59%
d)	Student's limitations with ICT skills	15	56%
e)	Lack of awareness regarding ways to integrate the software into teaching	14	52%
f)	Lack of content in local language	14	52%
g)	Lack of time to explore all blended learning applications	13	48%
h)	Lack of administrative support/initiative at LIS Teacher level	12	44%
i)	Problems with internet access	10	37%
j)	Difficult to keep up-to-date with the best and suitable educational technology	9	33%
k)	Lack of maintenance of Computers & Security issues	8	30%
l)	Lack of students'/ teachers' interest	6	22%
m)	Age constraint	6	22%
n)	Prefer traditional way and not willing to step out from comfort zone	6	22%
o)	The Blended Learning tools are too complicated to use	4	15%
p)	Unable to relate blended learning applications with teaching	2	7%

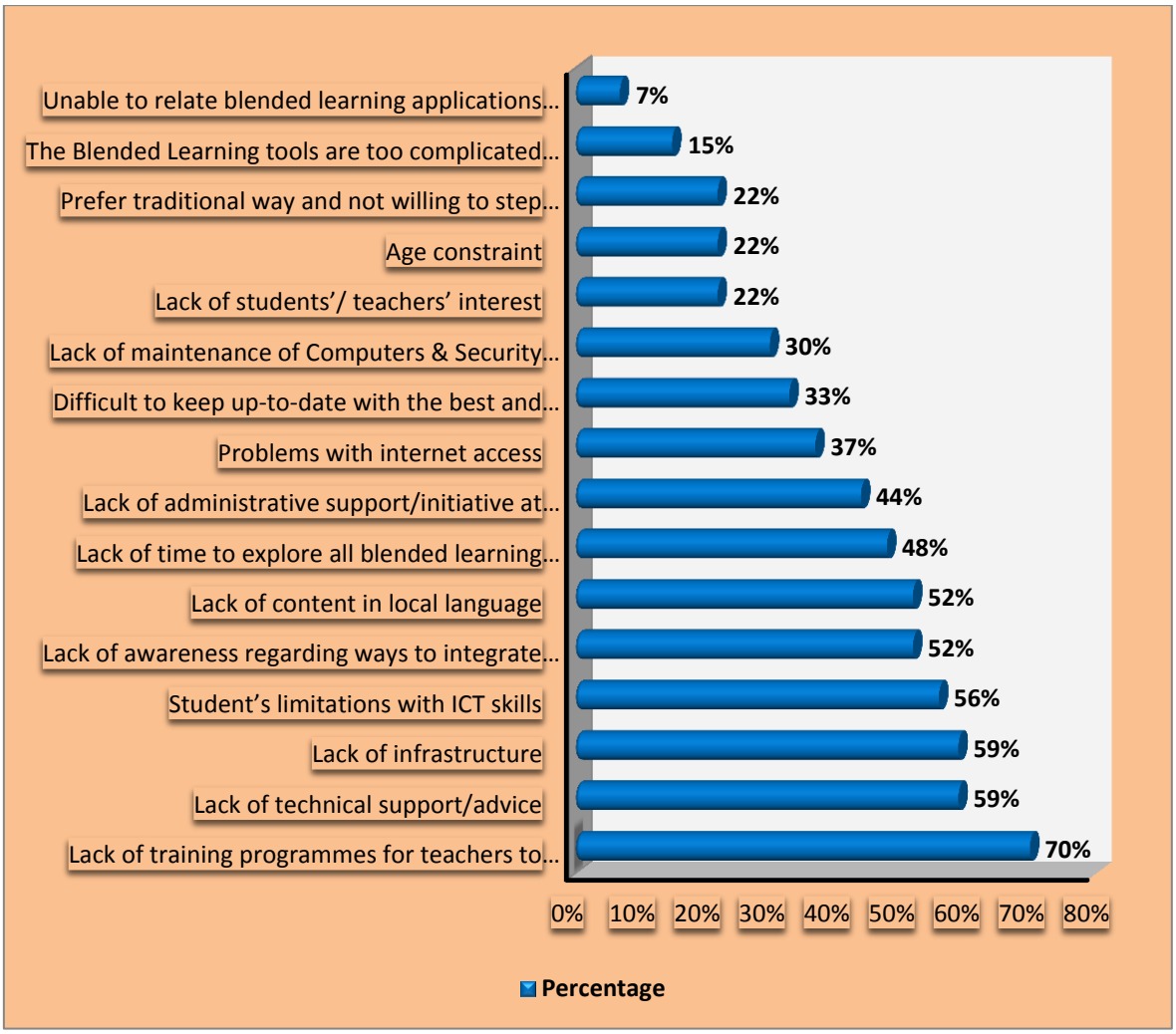


Fig 5.27: Challenges in Effective Use of Blended Learning by LIS Teachers

5.1.4.15 Preference of One Educational Facility by LIS Teachers

LIS Teachers were asked to mention one facility/function to have them in educational system which would help them in teaching experience and further development of their students in a holistic manner. **Table 5.28** shows the responses to this question. It is to be noted here that multiple answers were permitted for this question. So, 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** shows the graphical representation of the same.

Table 5.28: Preference of One Educational Facility by LIS Teachers

Facilities (Rank Wise)	Responses (N = 27)	Percentage
a) PowerPoint	19	70%
b) Video Conference	14	52%
c) VLE	8	30%
d) Online Forum	8	30%
e) Online Discussion board	6	22%
f) Online Chat Room	5	19%
g) Blog	4	15%
h) Wiki	4	15%
i) Podcasting	3	11%
j) Real Time Polling system	2	7%

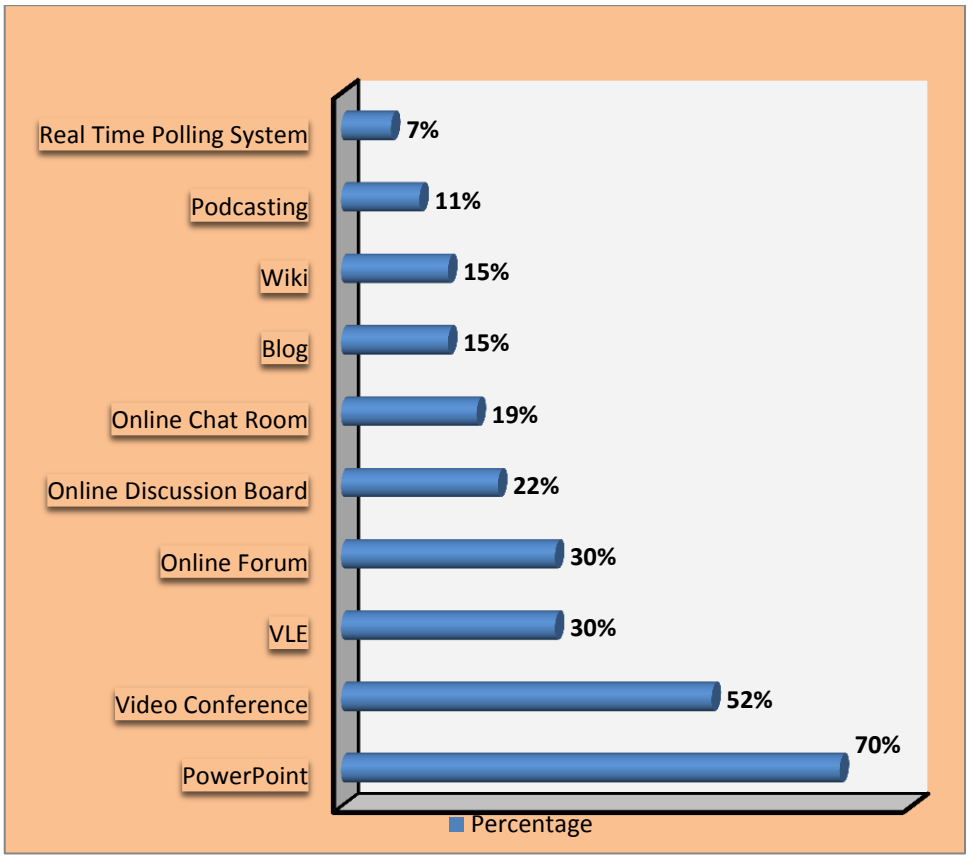


Fig 5.28: Preference of One Educational Facility by LIS Teachers

5.1.4.16 *Most Positive Aspects of Blended Learning According to LIS Teachers*

In an open ended question, LIS Teachers were asked to mention the most positive aspects of teaching a course using blended format. They were optimistic about the student's understanding of concepts through this kind of format. The important aspects mentioned by the LIS Teachers are detailed here. They viewed that:

- 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.

5.1.4.17 Least Positive Aspects of Blended Learning According to LIS Teachers

In an open ended question, LIS Teachers were asked to mention the least positive aspects of teaching a course using blended format. The important aspects related to this mentioned by the LIS Teachers are detailed here. They reported that:

- 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.

5.1.4.18. Suggestions and Comments of LIS Teachers.

In an open ended question, LIS Teachers were requested to give their valuable comments and suggestions on the way learning can be blended for the up liftment of LIS education. The important suggestions mentioned by the LIS Teachers are detailed here. They suggested that:

- 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.

5.2 SURVEY OF LIS STUDENTS AND RESEARCH SCHOLARS

Given below are the details of analysis and interpretations of data drawn from the **245 LIS students** and **35 research scholars** of six LIS departments of six universities of North East India, viz., Assam University (AU); Gauhati University (GU); Dibrugarh University (DU); North Eastern Hill University (NEHU); Manipur University (MU) and Mizoram University

(MZU). Data were collected through structured **questionnaire (II)** which was distributed to the students and research scholars of each University's LIS department. There were a total number of 285 students and 38 research scholars in six LIS departments of North East India when the researcher visited in the departments. The researcher distributed questionnaires to each student and research scholars present out there. As students and research scholars fall under one broad category, hence their responses were analysed jointly. One of the main objectives of the study is to know the awareness and knowledge of blended learning and use of blended learning tools by the LIS students and research scholars of Universities of North East India.

5.2.1 General Information

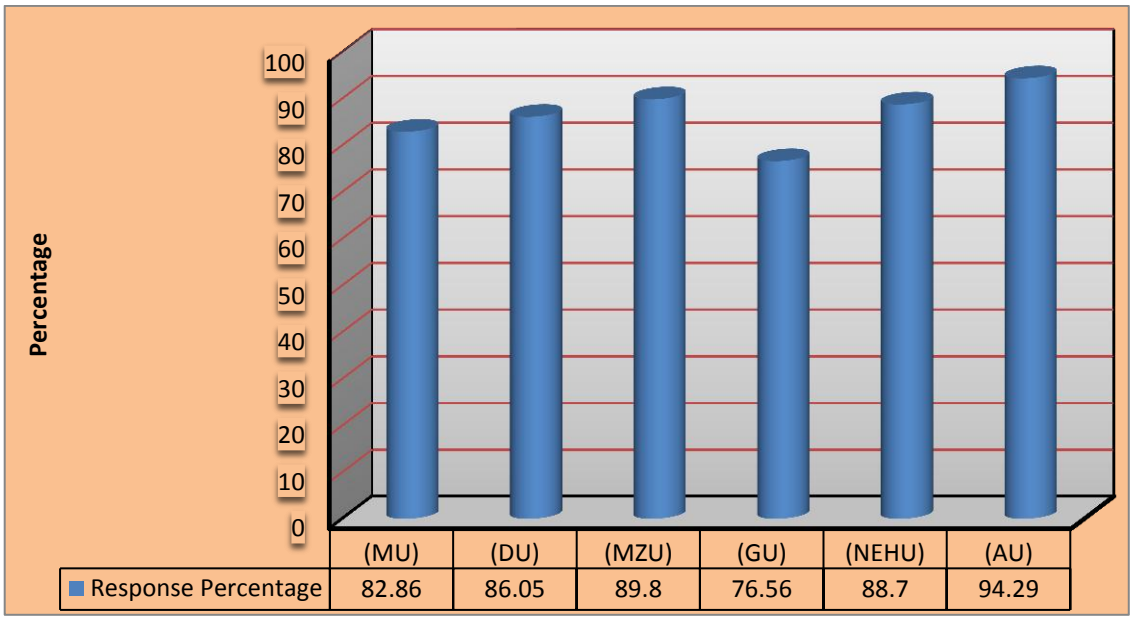
This section of the questionnaire deals with question like name of the university to which the students and research scholars belong, their category, gender and age. The details of analysis and interpretations are given below.

5.2.1.1 *Response Rate of Students and Research Scholars*

Table 5.29 gives the response rate of the LIS students and research scholars in the six universities. Questionnaires were distributed to 285 students and 38 research scholars. Out of which 245 students and 35 research scholars responded to the survey. The total response rate is **86.69%.** It is to be mentioned here that Dibrugarh University does not have any kind of research programme, so there no research scholars were found. In Assam University (AU) 94.29% respondents have responded, followed by Mizoram University (MZU) with 89.80%, North Eastern Hill University (NEHU) with 88.70%, Dibrugarh University (DU) with 86.05%, Manipur University (MU) with 82.86%, and Gauhati University (GU) with 76.56%. **Figure 5.29** shows the graphical representation of the same.

Table 5.29: Response Rate of Students and Research Scholars

University	Students			Research Scholars			Total Questionnaire Distributed	Total Questionnaire Received	Percentage
	Questionnaire Distributed	Questionnaire Received	Percentage	Questionnaire Distributed	Questionnaire Received	Percentage			
MU	34	28	82.35	1	1	100	35	29	82.86
DU	43	37	86.05	0	0	0	43	37	86.05
MZU	46	41	89.13	3	3	100	49	44	89.80
GU	58	44	75.86	6	5	83.33	64	49	76.56
NEHU	56	49	87.50	6	6	100	62	55	88.70
AU	48	46	95.83	22	20	90.91	70	66	94.29
Total	**285**	**245**	**85.96**	**38**	**35**	**92.11**	**323**	**280**	**86.69**



(DU= Dibrugarh University, **AU=** Assam University, **GU**= Gauhati University, **MU**= Manipur University, **NEHU**= North Eastern Hill University and **MZU**= Mizoram University**)**

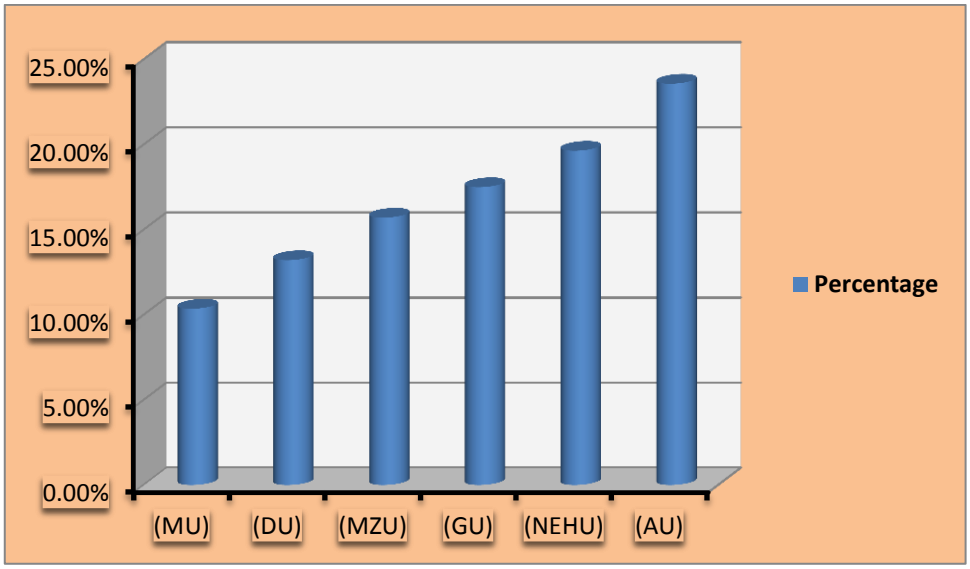
Fig 5.29 Response Rate of Students and Research Scholars

5.2.1.2 *University wise distribution of Respondents.*

Students and research scholars were requested to indicate their university to which they belong to enable the researcher to correlate with the other variables of the questions formulated. **Table 5.30** shows the University wise distribution of respondents who participated in the survey. From Assam University (AU) 23.58%, followed by North Eastern Hill University (NEHU) 19.64%, Gauhati University (GU) 17.5%, Mizoram University (MZU) 15.71%, Dibrugarh University (DU) 13.21%, Manipur University (MU) 10.36%. **Figure 5.30** shows the graphical representation of the same.

Table 5.30: University wise distribution of Respondents

University	Frequency	Percentage
Manipur University (MU)	29	10.36%
Dibrugarh University (DU)	37	13.21%
Mizoram University (MZU)	44	15.71%
Gauhati University(GU)	49	17.5%
North Eastern Hill University (NEHU)	55	19.64%
Assam University (AU)	66	23.58%
Total	**280**	**100%**



(DU= Dibrugarh University, **AU=** Assam University, **GU**= Gauhati University, **MU**= Manipur University, **NEHU**= North Eastern Hill University and **MZU**= Mizoram University**)**

Fig 5.30: University wise distribution of Respondents

5.2.1.3 *Category Wise Distribution of Respondents*

The respondents of the study were asked to indicate their category to enable the researcher to correlate with the other variables of the questions formulated. **Table 5.31** shows the Category wise distribution of the respondents who participated in the survey. Considering the entire population of 280 respondents in the present study, it displays that 87.5 % of respondents are students and 12.5% are research scholars. **Figure 5.31** shows the graphical representation of the same.

Table 5.31: Category Wise Distribution of Respondents

Category	Frequency	Percentage
Students	245	87.5%
Research Scholars	35	12.5%
Total	**280**	**100%**

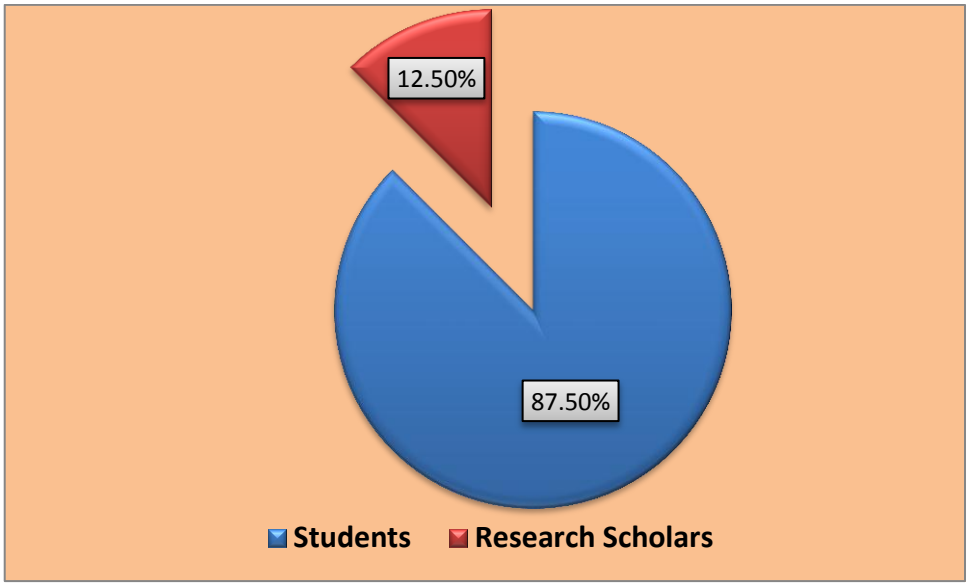


Fig 5.31: Category Wise Distribution of Respondents

5.2.1.4 *Gender Wise Distribution of Respondents*

The respondents of the study were asked to indicate their gender to enable the researcher to correlate with the other variables of the questions formulated. **Table 5.32** shows the gender

wise distribution of the respondents who participated in the survey. Considering the entire population of 280 respondents in the present study, it displays that 58% of respondents are female and 42% are male. **Figure 5.32** shows the graphical representation of the same.

Table 5.32: Gender Wise Distribution of Respondents

Category of Respondents	Male		Female		Total
	Frequency	Percentage	Frequency	Frequency	
Students	96	39%	149	61%	245
Research Scholars	21	60%	14	40%	35
Total	**117 (42%)**		**163 (58%)**		**280**

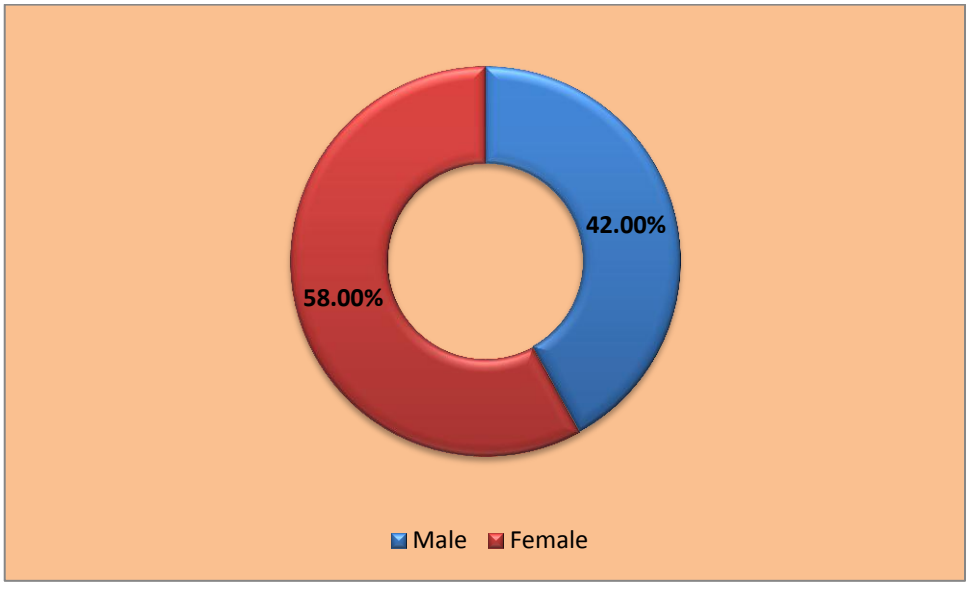


Fig 5.32: Gender Wise Distribution of Respondents

5.2.1.5 *Age Wise Distribution of Respondents*

The respondents of the study were asked to indicate their age to enable the researcher to correlate with the other variables of the questions formulated. **Table 5.33** shows the age wise distribution of the respondents who participated in the survey. Considering the

entire population of 280 respondents in the present study, it displays 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** shows the graphical representation of the same.

Table 5.33: Age Wise Distribution of Respondents

Age Group	Frequency	Percentage
Below 25	226	81%
25-35	48	17%
35-45	6	2%
45 and above	0	0%
Total	**280**	**100%**

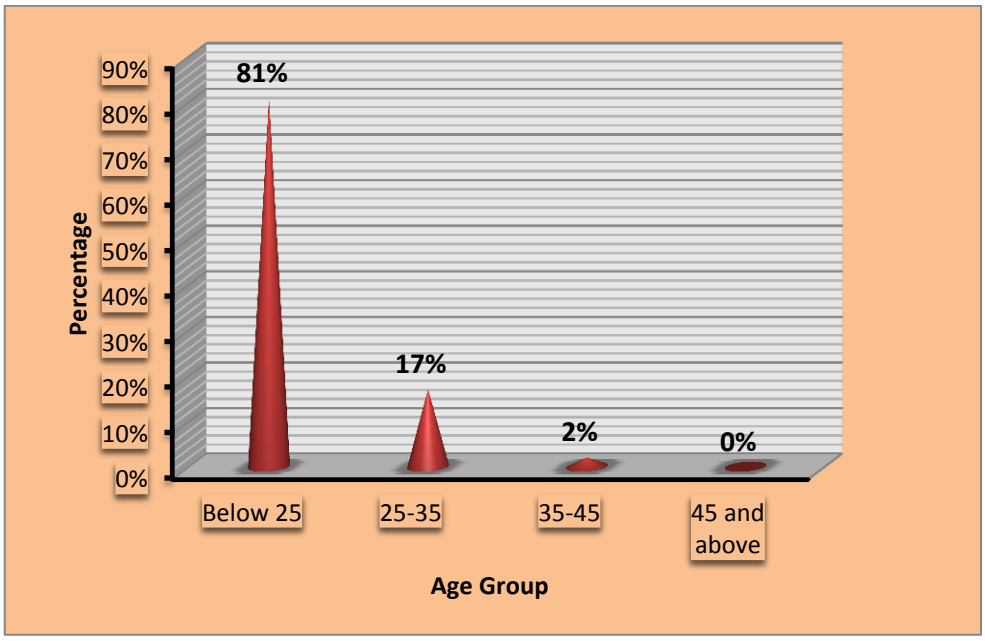


Fig 5.33: Age Wise Distribution of Respondents

5.2.2 Facilities

This section of the questionnaire deals with questions related to IT facilities available for students and research scholars in their departments. Questions like availability of computers and adequate facilities were asked. The details of analysis and interpretations are given below.

5.2.2.1 *Facility of Computers for Students and Research Scholars*

Respondents were asked to mention whether computer facility is being provided by their respective departments for their use. The details of the responses have been shown in **Table 5.34**. It indicates that 89% of them 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** shows the graphical representation of the same.

Table 5.34: Facility of computers for students and research scholars

Options	Frequency	Percentage
Yes, in dedicated computer rooms	248	89%
Yes, there are some computers in the "normal" classrooms	18	6%
No	14	5%
Total	**280**	**100%**

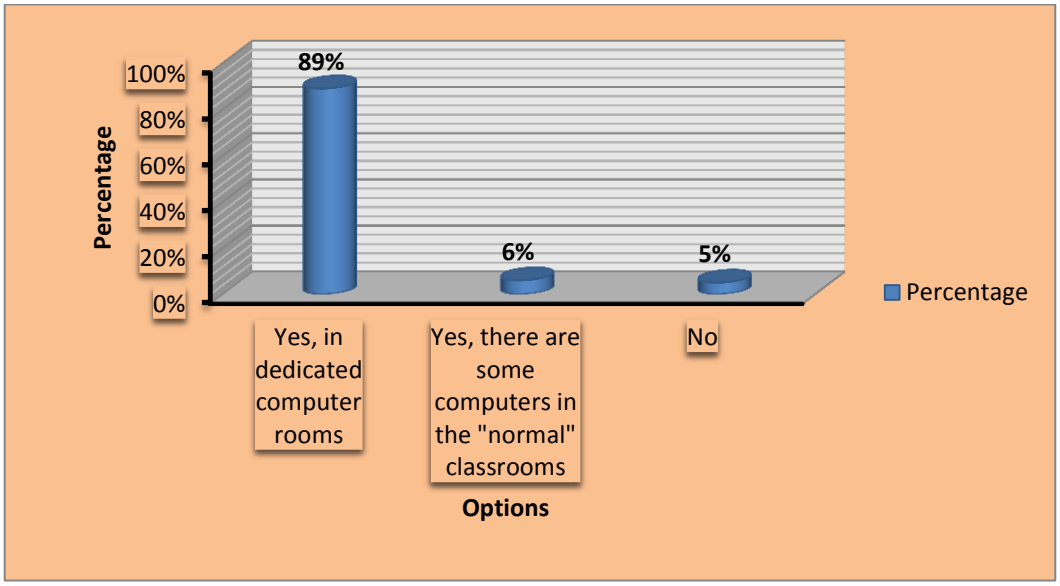


Table 5.34: Facility of computers for students and research scholars

5.2.2.2 *Adequacy of IT Facility in Department*

Respondents were asked to mention whether IT facilities in their departments are adequate for them to perform learning and research work. The details of the responses have been shown in **Table 5.35**. It indicates that 77.5% of them responded with positive reply. And 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** shows the graphical representation of the same.

Table 5.35: Adequacy of IT Facility in Department

Options	Frequency	Percentage
Yes	217	77.5%
No	63	22.5%
Total	**280**	**100%**

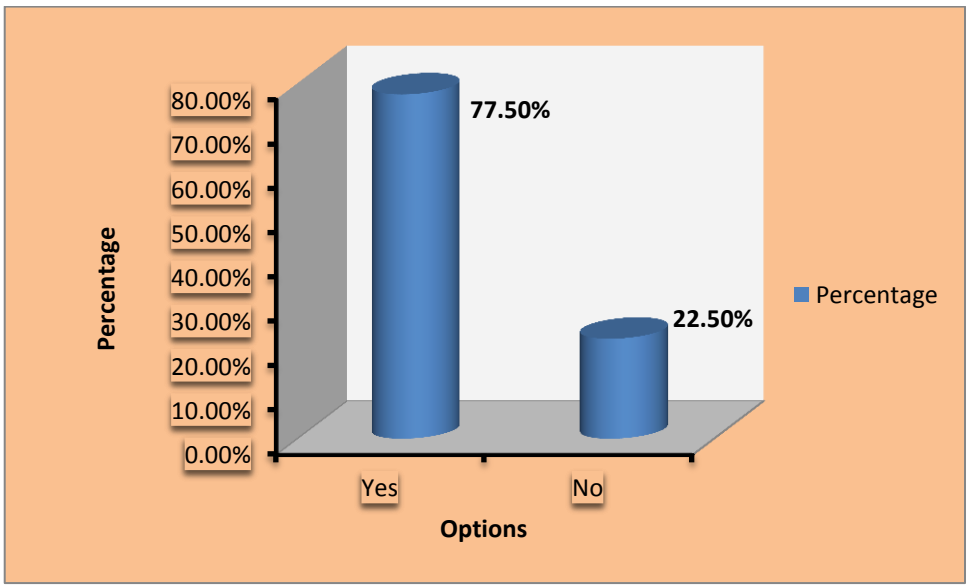


Fig 5.35: Adequacy of IT Facility in Department

5.2.3 IT Literacy Level

This section of the questionnaire deals with questions related to students and research scholars' IT literacy level. Questions like their level of computer/technology skill, access

to technology outside university campus, purpose of IT use. The details of analysis and interpretations are given below.

5.2.3.1 *Level of Computer/Technology Skills*

Respondents were asked to mention their computer/technology skills. The details of the responses have been shown in **Table 5.36**. It reveals that 51% of them 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 5.36** shows the graphical representation of the same.

Table 5.36: Level of Computer/Technology Skills

Options	Frequency	Percentage
Beginner	97	35%
Competent	144	51%
Proficient	33	12%
Expert	6	2%
Total	**280**	**100%**

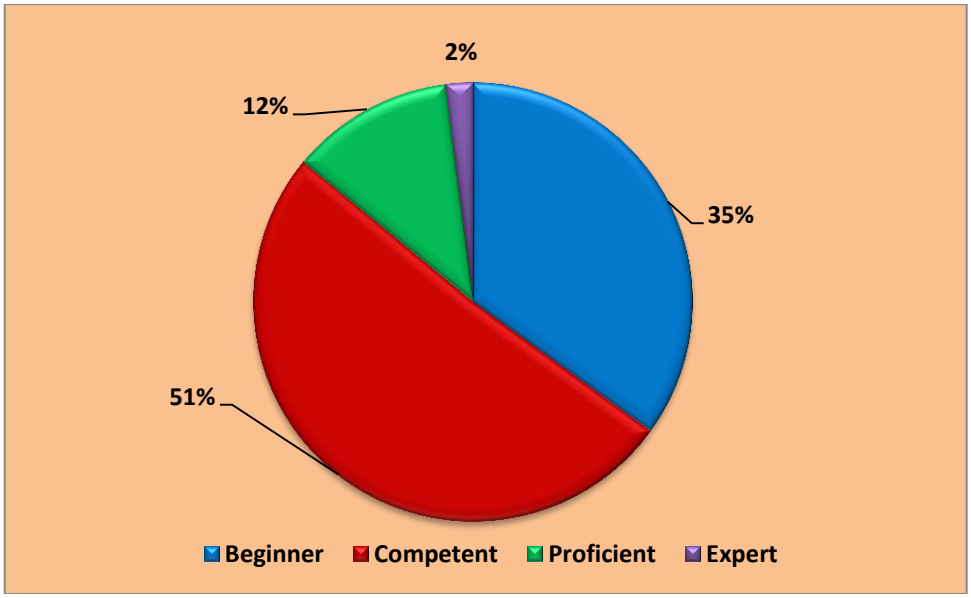


Fig 5.36: Level of Computer/Technology Skills

5.2.3.2 *Access to Technology outside University Campus*

Respondents were asked to mention the type of technology they access outside university campus. The details of the responses have been shown in **Table 5.37**. It indicates that 49% of them 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 5.37** shows the graphical representation of the same.

Table 5.37: Access to Technology outside University Campus

Options	Frequency	Percentage
I have a personal computer but no internet connectivity	65	23%
I have access to a computer only part of the time	49	17%
I have a personal computer with internet connectivity	138	49%
I only have access to a computer with internet part of the time	22	9%
I have no access to a computer	6	2%
Total	**280**	**100%**

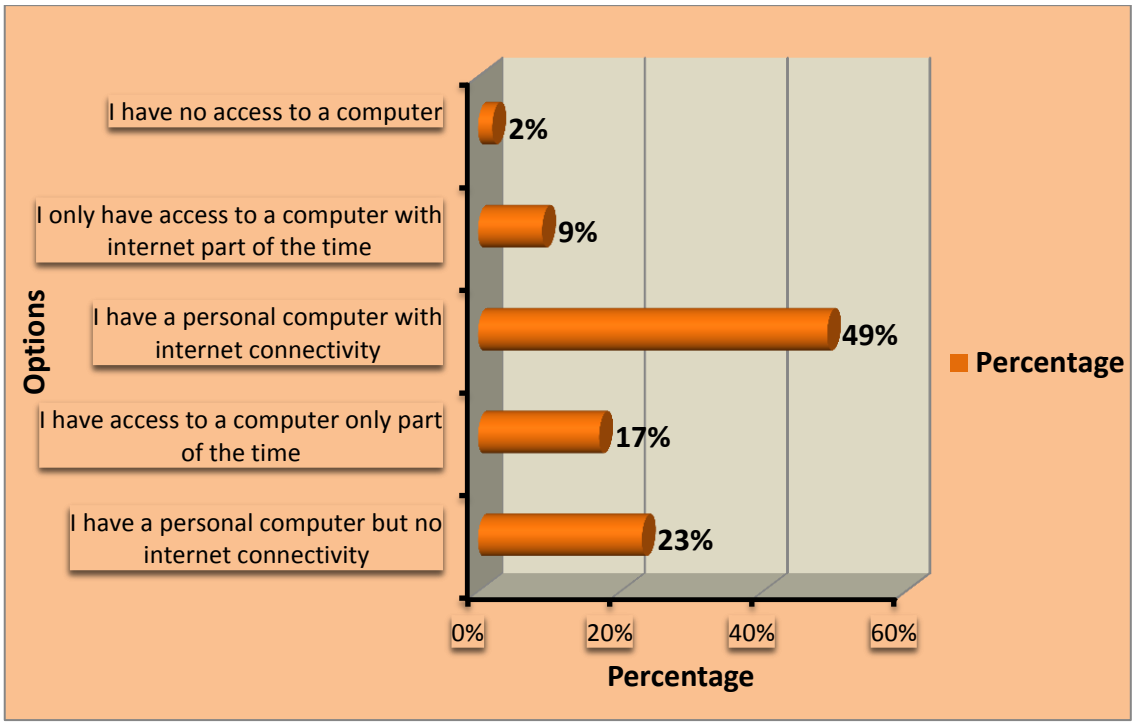


Fig 5.37: Access to Technology outside University Campus

5.2.3.3 *Purpose of using Information Technology (IT)*

Respondents were asked to mention about the purpose of their using IT. **Table 5.38** shows the responses to this question. It is to be noted here that multiple answers were permitted for this question. So, it is seen that 85% of them use 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** shows responses to this question.

Table 5.38: Purpose of using Information Technology (IT)

Options (Rank Wise)	Responses (N=280)	Percentage
Information seeking	238	85%
Doing a research	40	14%
Leisure time	79	28%
others	6	2%

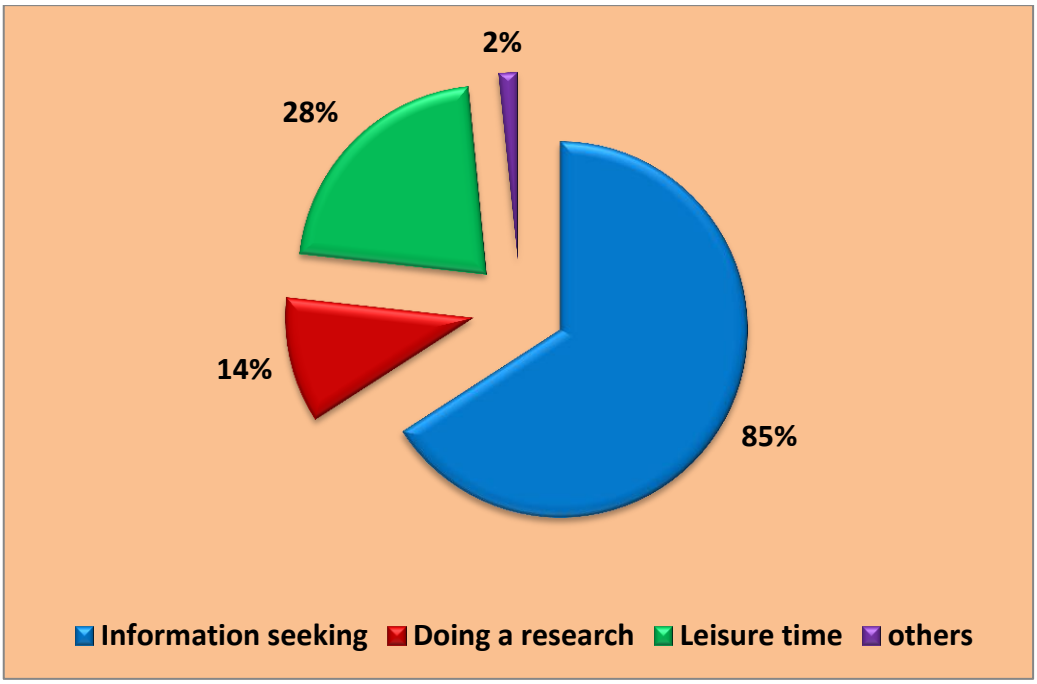


Fig 5.38: Purpose of using Information Technology (IT)

5.2.4 Familiarity with E-Learning

This section of the questionnaire deals with questions related to students and research scholars' familiarity with E-Learning. Questions like their experience with e-learning courses are asked here. The details of analysis and interpretations are given below.

5.2.4.1 *Experience with E-Learning Courses*

Respondents were asked to mention whether they have some experience with e-learning courses. The details of the responses have been shown in **Table 5.39.** It indicates that 43% responded with positive reply and 57% responded with negative reply. Therefore, it shows that majority of the respondents are not having any kind of experience with e-learning courses. **Figure 5.39** shows the graphical representation of the same.

Table 5.39: Experience with E-Learning Courses

Option	Frequency	Percentage
Yes	121	43%
No	159	57%
Total	**280**	**100%**

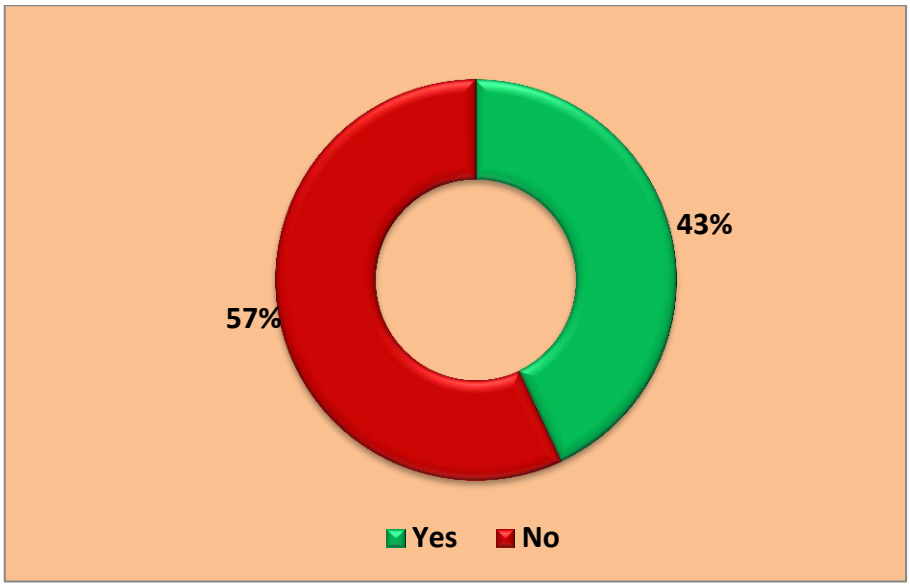


Fig 5.39: Experience with E-Learning Courses

5.2.5 Blended Learning Awareness

This section of the questionnaire deals with questions related to students and research scholars' awareness with Blended Learning. Questions like their knowledge of blended learning, appreciation, use of blended learning tools, thoughts related to this kind of learning, their choices, challenges and lastly their valuable opinions and suggestions. Basically this section largely talks of the Blended learning and the respondents' attitude towards this kind of learning. The details of analysis and interpretations are given below.

5.2.5.1 *Knowledge of Blended Learning*

Respondents were asked to mention about their knowledge of Blended learning. The details of the responses have been shown in **Table 5.40**. Out of the 280 respondents, 42% know about what blended learning is. Rests 58% of are unaware of blended learning. Therefore from the table 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** shows the graphical representation of the same.

Table 5.40: Knowledge of Blended Learning

Option	Frequency	Percentage
Yes	117	42%
No	163	58%
Total	**280**	**100%**

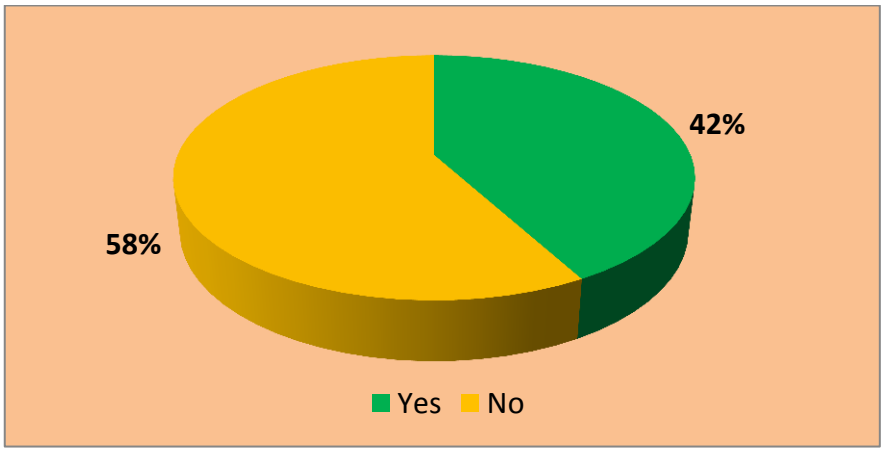


Fig 5.40: Knowledge of Blended Learning

5.2.5.2 *Appreciation of Blended Learning in Comparison to Traditional Learning*

Table **5.41** reveals the appreciation of Blended learning in comparison to traditional learning; based on the replies of those who are aware about Blended learning. A follow up question aimed at asking the respondents "If yes, would they appreciate Blended Learning in compared to the traditional one?" The table below shows that out of 117 respondents who have answered the previous question positively, 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** shows the graphical representation of the same.

Table 5.41: Appreciation of Blended Learning in Comparison to Traditional Learning

Option	Frequency	Percent
Yes	111	95%
No	6	5%
Total	**117**	**100%**

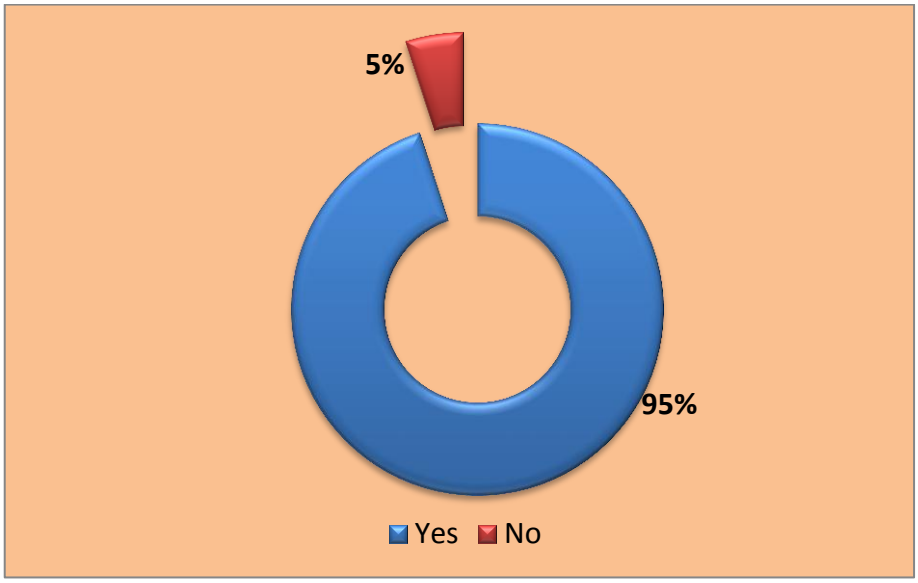


Fig 5.41: Appreciation of Blended Learning in Comparison to Traditional Learning

5.2.5.3 *Use of Technologies in Classroom*

Respondents were asked to mention about the different technologies they use in classroom for learning. The details of the responses have been shown in **Table 5.42.** It indicates that most 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. **Figure 5.42** shows the graphical representation of the same.

Table 5.42: Use of Technologies in Classroom

Technologies in the classroom	Not known		Not used		Used		Total	
	Nos.	%	Nos.	%	Nos.	%	Nos.	%
PowerPoint	-		23	(8%)	**257**	**(92%)**	280	(100%)
Interactive whiteboard (IWB)	14	(5%)	122	(44%)	**144**	**(51%)**	280	(100%)
Audience response system	85	(30%)	**195**	**(70%)**	-		280	(100%)

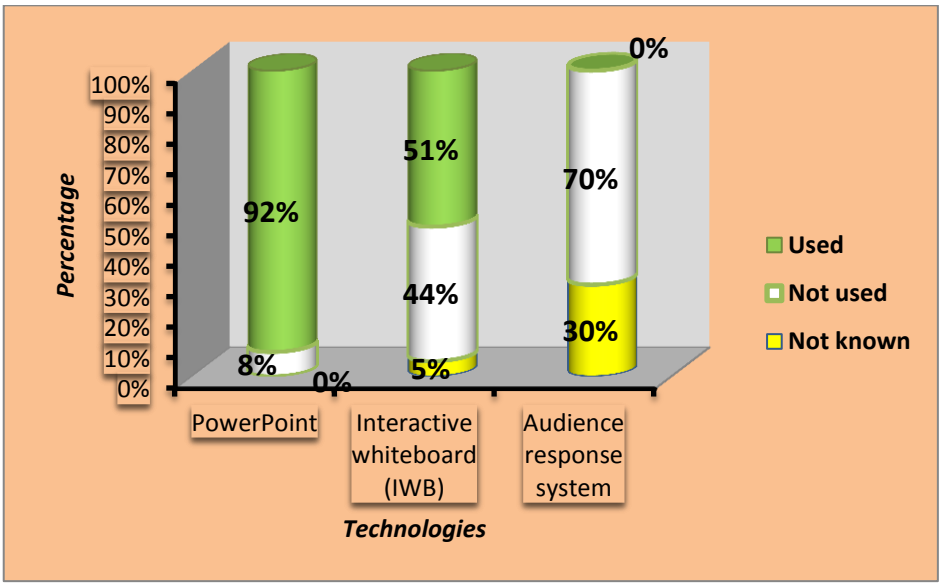


Fig 5.42: Use of Technologies in Classroom

5.2.5.4 *Use of Virtual Communication Tools*

Respondents were asked to mention about the different virtual communication tools they use for learning. The details of the responses have been shown in **Table 5.43**. It reveals that most 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 with 68% and Discussion boards with 59%. Therefore, it shows that email and chat are lucratively used by the students and research scholars. **Figure 5.43** shows the graphical representation of the same

Table 5.43: Use of Virtual Communication Tools

Virtual communication tools	Not known		Not used		Used		Total	
	Nos.	%	Nos.	%	Nos.	%	Nos.	%
Audio files	6	(2%)	**190**	**(68%)**	84	(30%)	280	(100%)
Discussion boards	9	(3%)	**166**	**(59%)**	105	(38%)	280	(100%)
Chat or conferencing	-		126	(45%)	**154**	**(55%)**	280	(100%)
E-mails	-		60	(21%)	**220**	**(79%)**	280	(100%)
Polling and questionnaire	33	(12%)	**209**	**(75%)**	38	(13%)	280	(100%)
Videoconferencing	7	(2%)	**226**	**(81%)**	47	(17%)	280	(100%)

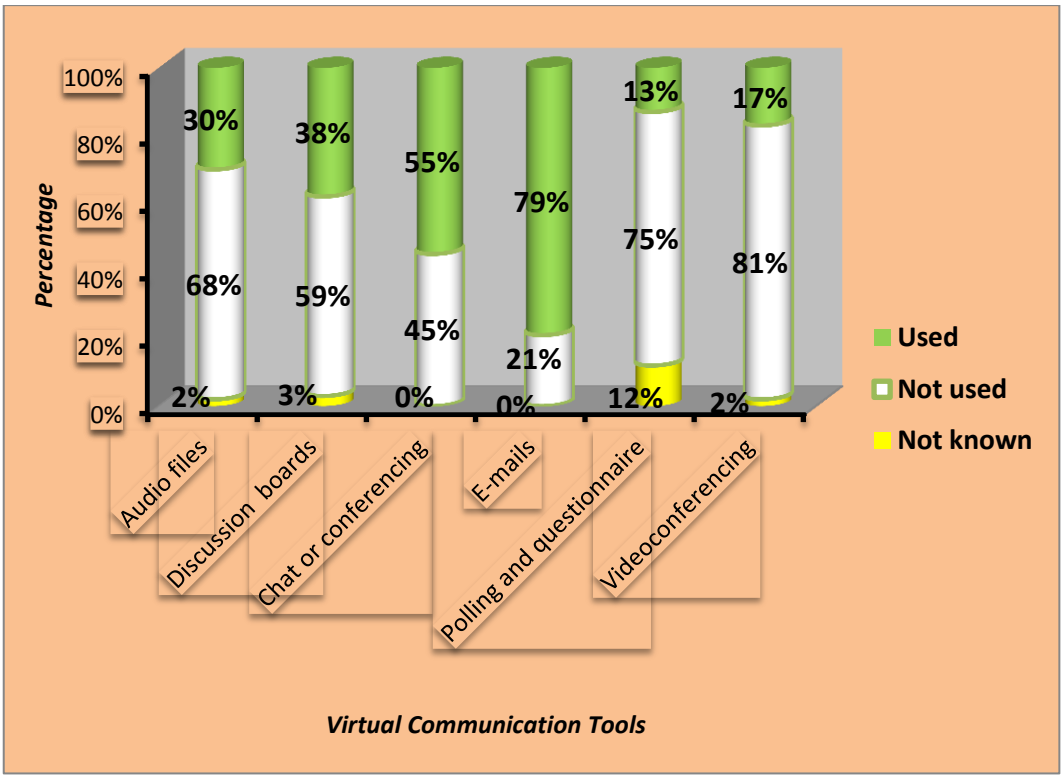


Fig 5.43: Use of Virtual Communication Tools

5.2.5.5 Use of Social Networking Software

Respondents were asked to mention about the different social networking software they use. The details of the responses have been shown in **Table 5.44**. It indicates that most 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 with14%. Therefore, it shows that Social-networking sites and instant messaging and phone calls are lucratively used by the students and research scholars. **Figure 5.44** shows the graphical representation of the same.

Table 5.44: Use of Social Networking Software

Virtual communication tools	Not known		Not used		Used		Total	
	Nos.	%	Nos.	%	Nos.	%	Nos.	%
Instant messaging and phone calls	-		52 (19%)		**228 (81%)**		280	(100%)
Podcasts	42	(15%)	**211**	**(75%)**	27	(10%)	280	(100%)
Social-networking sites	-		33	(12%)	**247**	**(88%)**	280	(100%)
Video clips	-		**217**	**(78%)**	63	(22%)	280	(100%)
Weblogs	39	(14%)	**175**	**(62%)**	66	(24%)	24	(100%)
Wikis	18	(6%)	86	(31%)	**176**	**(63%)**	24	(100%)

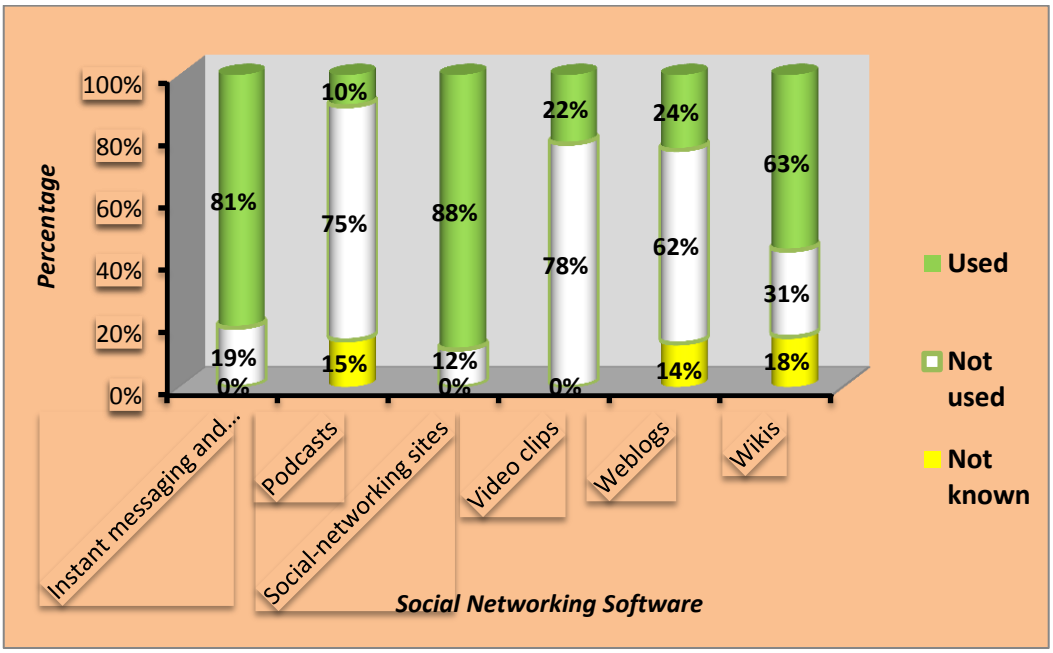


Fig 5.44: Use of Social Networking Software

5.2.5.6 *Use of E-Learning Systems*

Respondents were asked to mention about the use of different E-Learning Systems. The details of the responses have been shown in **Table 5.45**. It indicates that most 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 10% respectively do not know about them. Therefore, it shows that Group sites are lucratively used by the students and research scholars. **Figure 5.45** shows the graphical representation of the same.

Table 5.45: Use of E-Learning Systems

E-Learning Systems	Not known		Not used		Used		Total	
	Nos.	%	Nos.	%	Nos.	%	Nos.	%
Virtual Learning Environments e.g. blackboard	-		**169**	**(60%)**	111	(40%)	280	(100%)
Conferencing systems e.g. iCohere	26	(9%)	**254**	**(91%)**	-		280	(100%)
Group Collaboration Software e.g. Lotus Notes	29	(10%)	**251**	**(90%)**	-		280	(100%)
Group sites e.g. Google groups	-		33	(12%)	**247**	**(88%)**	280	(100%)

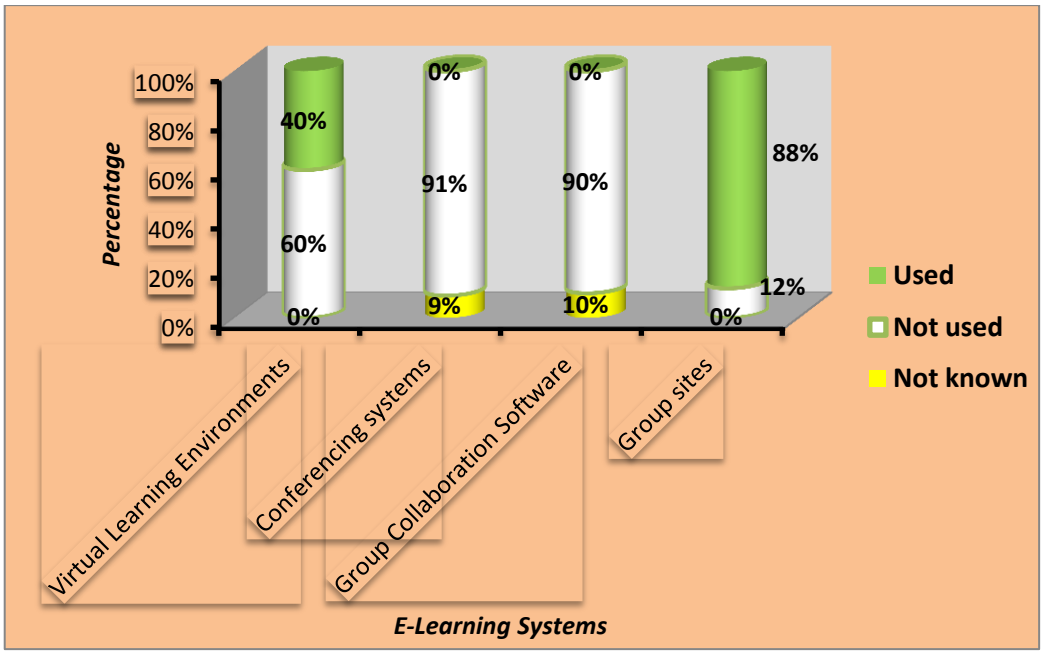


Fig 5.45: Use of E-Learning Systems

5.2.5.7 *Use of Mobile Learning*

Respondents were asked to mention about the use of different Mobile Learning or m-learning. The details of the responses have been shown in **Table 5.46**. It indicates that most 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** shows the graphical representation of the same.

Table 5.46: Use of Mobile Learning

E-Learning Systems	Not known Nos.	%	Not used Nos.	%	Used Nos.	%	Total Nos.	%
Mobile phones	0		24	(9%)	**256**	**(91%)**	280	(100%)
Laptops	0		11	(4%)	**269**	**(96%)**	280	(100%)
Personal digital assistants(PDA) e.g. Apple's Newton	46	(16%)	**212**	**(76%)**	22	(8%)	280	(100%)
Tablet PCs	0		**252**	**(90%)**	28	(10%)	280	(100%)
MP3 e.g. iPods	0		**241**	**(86%)**	39	(14%)	280	(100%)

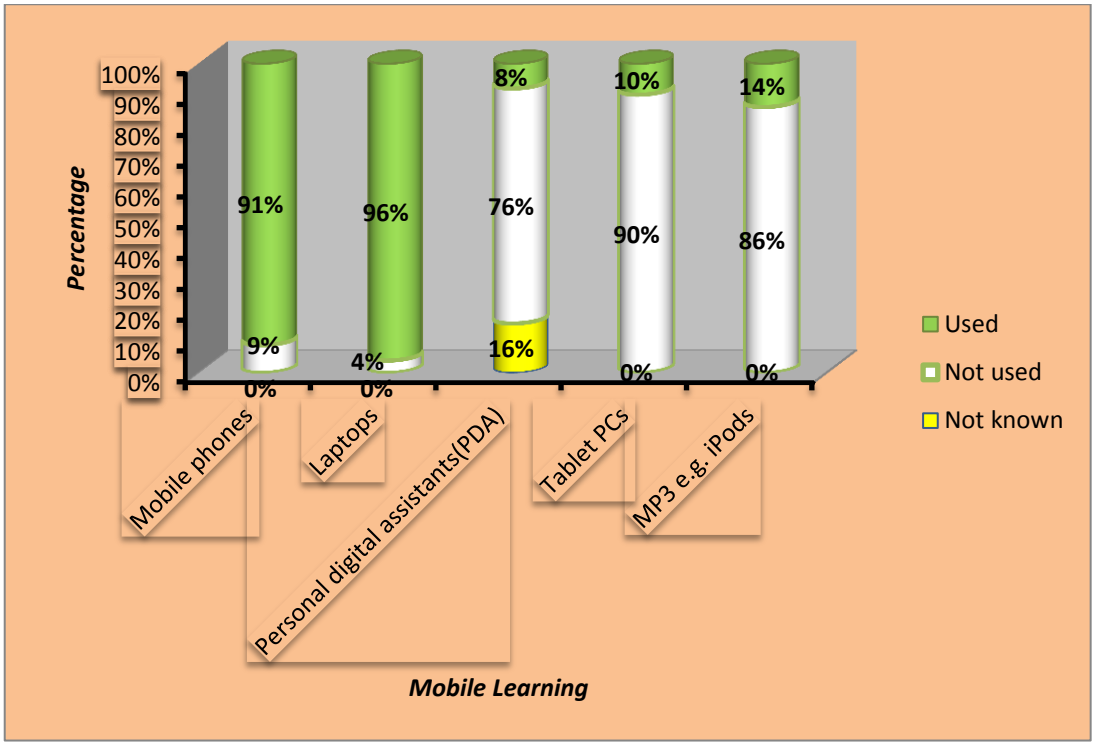


Fig 5.46: Use of Mobile Learning

5.2.5.8 Preference of Course Format

Respondents were asked to mention their preference among three different course formats. The question goes like "If the LIS course is being offered in different formats, which course format would you prefer" The details of the responses have been shown in **Table 5.47.** Majority of the respondents that is 75% preferred for Blended course format. Again 18% of them preferred for Traditional course format and rest 7% opted for entirely online course format. Therefore from the table it is clear that a good majority 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** shows the graphical representation of the same.

Table 5.47: Preference of Course Format

Options	Frequency	Percentage
Traditional course format	51	18%
Blended course format	210	75%
Entirely online course format	19	7%
Total	**280**	**100%**

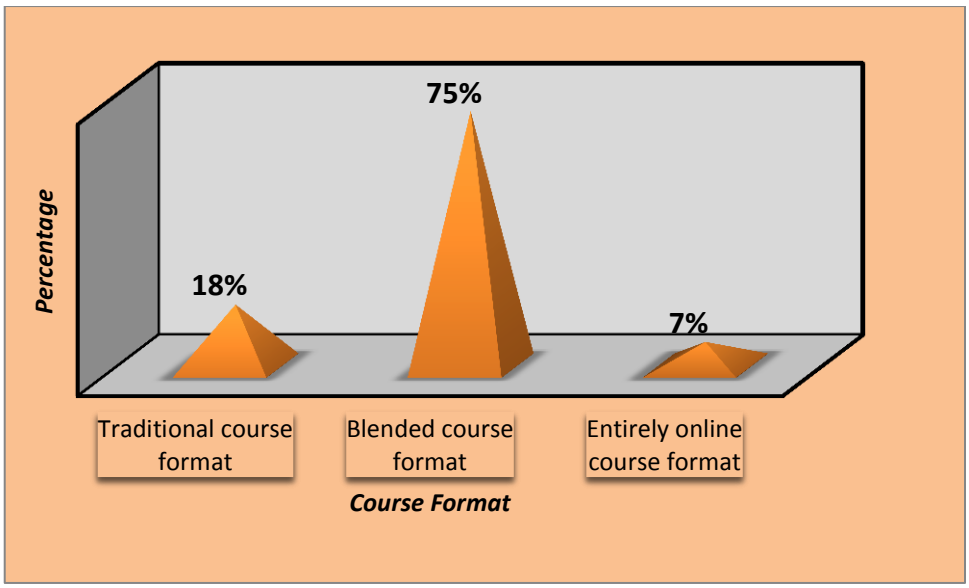


Fig 5.47 Preference of Course Format

5.2.5.9 *Motivation to Acquire Knowledge*

Respondents were asked to mention their thought on motivation to acquire knowledge. The question goes like "Do you think you will be more motivated to acquire knowledge using blended learning?" The details of the responses have been shown in **Table 5.48** Majority of the respondents that is 71% opted with 'possibly' while 26% of them opted with 'absolute yes' and rest 3% opted with 'absolutely no'. Therefore from the table it is clear that a majority 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 a good sign. **Figure 5.48** shows the graphical representation of the same.

Table 5.48: Motivation to Acquire Knowledge

Options	Frequency	Percentage
Absolutely Yes	73	26%
Possibly	198	71%
Absolutely No	9	3%
Total	**280**	**100%**

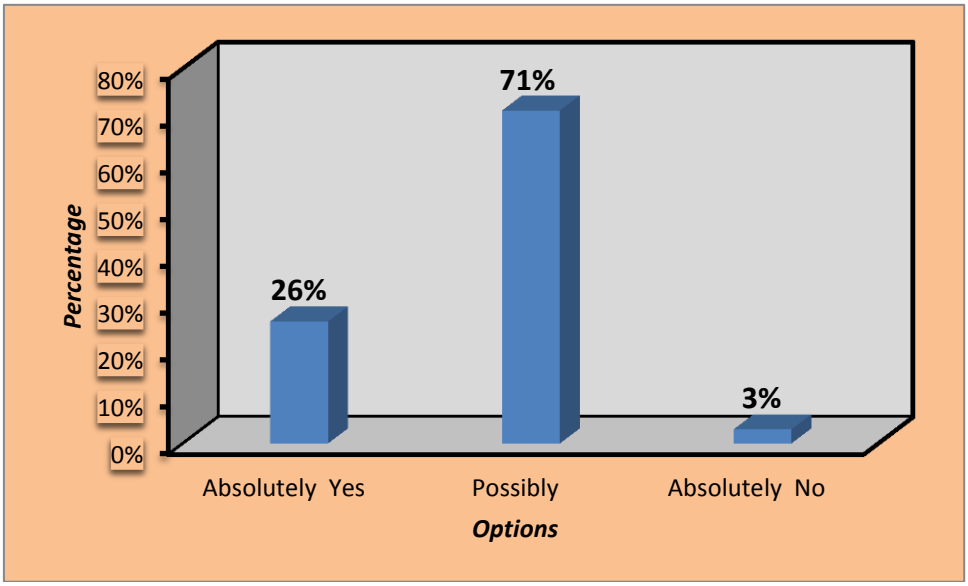


Table 5.48: Motivation to Acquire Knowledge

5.2.5.10 *Benefit of Taking Part in Blended Learning System*

Respondents were asked to mention about their opinion regarding the benefit of taking part in blended learning system. The question goes like "You want to take part in 'blended learning' system to benefit of" The details of the responses have been shown in **Table 5.49.** 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 from the table 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 good sign. **Figure 5.49** shows the graphical representation of the same.

Table 5.49: Benefit of Taking Part in Blended Learning System

Options	Frequency	Percentage
I don't want	12	4%
Personal development	36	13%
Professional development	22	8%
Professional and Personal Development	210	75%
Total	**280**	**100%**

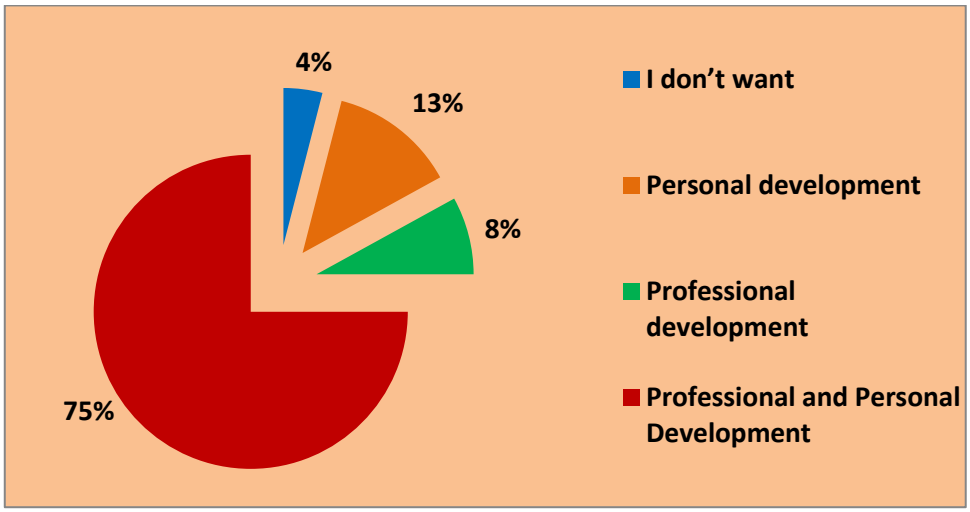


Fig 5.49: Benefit of Taking Part in Blended Learning System

5.2.5.11 *Better Learning Experience*

Respondents were asked to mention about their thought on better learning experience offered by blended learning system. The question goes like "Do you think that blended learning will offer better learning experience than Traditional face to face class room learning?" The details of the responses have been shown in **Table 5.50.** Majority of the respondents that is 65% responded with positive reply. Again 26% of them opted that they can't tell and 9% responded with negative reply. Therefore from the table it is clear that a good majority 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 really a good sign. **Figure 5.50** shows the graphical representation of the same.

Table 5.50: Better Learning Experience

Options	Frequency	Percentage
Yes	181	65%
No	26	9%
I can't tell	73	26%
Total	**280**	**100%**

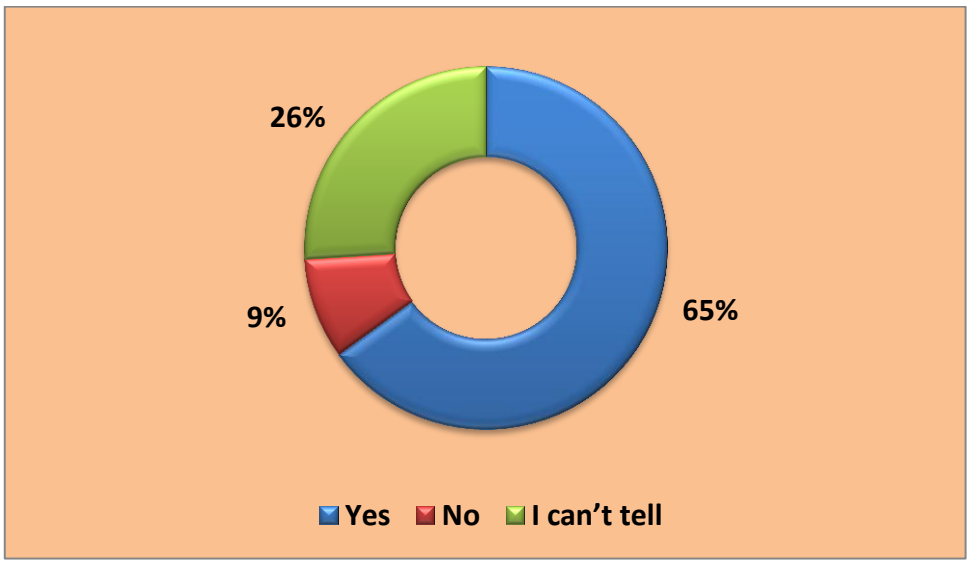


Fig 5.50: Better Learning Experience

5.2.5.12 *Platform for Better and Quality Education*

Respondents were asked to mention about their thought on blended learning tools which are considered to be helpful in providing a platform for better and quality education. The question goes like "Do you think that the tool of blended learning will provide a platform for better and quality education?" The details of the responses have been shown in **Table 5.51.** Majority of the respondents that is 72% responded with positive reply. Again 24% of them opted that they can't tell and 4% responded with negative reply. Therefore from the table it is clear that a good majority of the LIS students and research scholars of North East India think that tool of blended learning would provide a platform for better and quality education, which is really a good sign. **Figure 5.51** shows the graphical representation of the same.

Table 5.51: Platform for Better and Quality Education

Options	Frequency	Percentage
Yes	203	72%
No	10	4%
I can't tell	67	24%
Total	**280**	**100%**

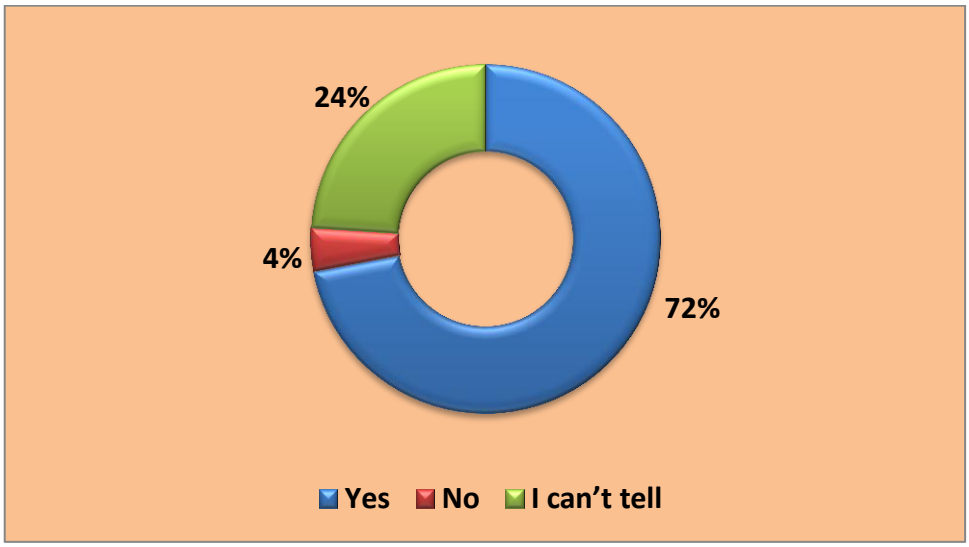


Fig 5.51: Platform for Better and Quality Education

5.2.5.13 *Knowledge Co-construction*

Respondents were asked to mention about their agreement on the fact that blended learning helps in knowledge co-construction. The question goes like "Blended learning helps knowledge co-construction." The details of the responses have been shown in **Table 5.52.** Majority of the respondents that is 80% agreed upon this fact. Again 19% of them opted for undecided and 1% disagreed on this. Therefore, from the table 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** shows the graphical representation of the same.

Table 5.52: Knowledge Co-construction

Options	Frequency	Percentage
Agree	225	80%
Disagree	3	1%
Undecided	52	19%
Total	**280**	**100%**

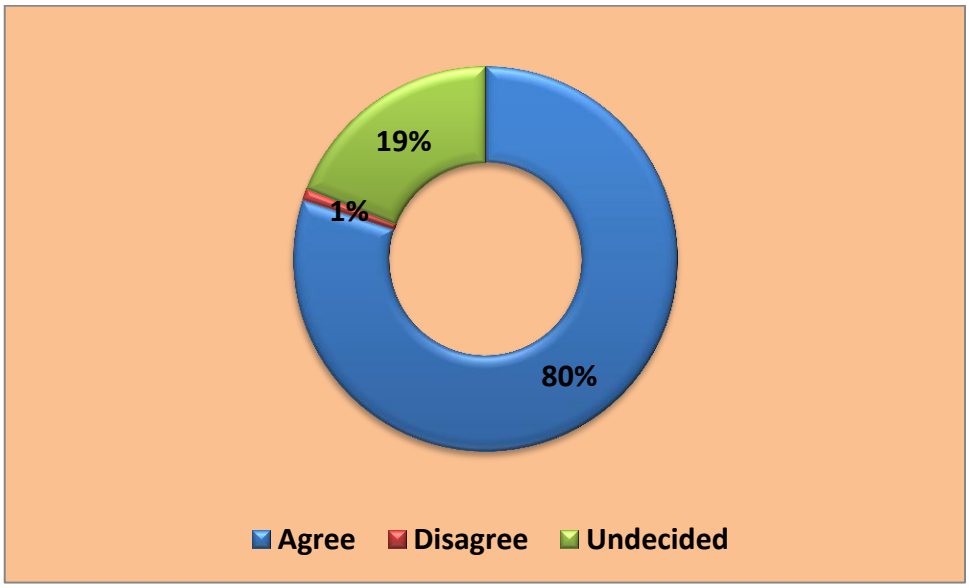


Fig 5.52: Knowledge Co-construction

5.2.5.14 *View on Blended Learning by Respondents*

Respondents were asked to mention their views and thoughts with regard to Blended learning. They were asked ten statements related to blended learning on which they were to agree or disagree or remain neutral in their opinion. The details of the responses have been shown in **Table 5.53**.

The first statement was "To me, blended learning does not offer any advantage over classroom learning". On reply to this majority of the respondents that is 50% disagreed upon it, 19% agreed and 31% remained neutral towards it.

Second statement was "I believe I can learn more, or would learn more through blended activities than through classroom lectures" On reply to this majority of the respondents that is 47% agreed upon it, 16% disagreed while 37% remained neutral.

Third statement was "Blended learning will save me more time compared to attending classroom lectures" To this majority of the respondents that is 60% agreed upon it, 10% disagreed while 30% were vague towards it.

Fourth statement was "Blended learning will be more cost effective compared to attending classroom lectures" To this majority of the respondents that is 47% remained neutral while 44% agreed upon it and 9% disagreed.

Fifth statement was "Compared to classroom learning, the workload for Blended learning will be too heavy". On reply to this majority of the respondents that are 48% remained neutral towards it, 37% agreed and 17% disagreed upon it.

Sixth statement was "I believe I can contribute more to online discussions than I do with classroom discussions" On reply to this majority of the respondents that are 41% remained neutral, 40% agreed upon it, while 19% disagreed.

Seventh statement was "I think I can interact more with my instructor and with other students in the blended environment than in the normal classroom" To this majority

of the respondents that are 49% agreed upon it, 16% disagreed while 35% were vague towards it.

Eighth statement was "I believe, use of different teaching tools will surely make the lectures easier to understand." To this majority of the respondents that are 80% agreed upon it, 1% disagreed while 19% were neutral towards it.

Ninth statement was "It's a great choice of blending face-to-face and online components of course without losing focus on core concepts." To this majority of the respondents that are 58% agreed upon it, 9% disagreed while 33% were neutral towards it.

Tenth statement was "While f2f components typically occur within a local university, Blended learning can involve collaboration with students outside an institution." To this majority of the respondents that are 66% agreed upon it, 2% disagreed while 32% were neutral towards it.

Therefore from the table it is clear that a good majority 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 sign. **Figure 5.53** shows the graphical representation of the same.

Table 5.53: View on Blended Learning by Respondents

Views	Agree Nos. %	Neutral Nos. %	Disagree Nos. %	Total Nos. %
To me, blended learning does not offer any advantage over classroom learning	54 (19%)	86 (31%)	**140 (50%)**	280 (100%)
I believe I can learn more, or would learn more through blended activities than through classroom lectures	**132 (47%)**	104 (37%)	44 (16%)	280 (100%)
Blended learning will save me more time compared to attending classroom lectures	**168 (60%)**	84 (30%)	28 (10%)	280 (100%)
Blended learning will be more cost effective compared to attending classroom lectures	124 (44%)	**131 (47%)**	25 (9%)	280 (100%)
Compared to classroom learning, the workload for Blended learning will be too heavy	98 (35%)	**134 (48%)**	48 (17%)	280 (100%)
I believe, I can contribute more to online discussions than I do with classroom discussions	112 (40%)	**114 (41%)**	54 (19%)	280 (100%)
I think I can interact more with my instructor and with other students in the blended environment than in the normal classroom	**138 (49%)**	98 (35%)	44 (16%)	280 (100%)
I believe, use of different teaching tools will surely make the lectures easier to understand.	**223 (80%)**	52 (19%)	5 (1%)	280 (100%)
It's a great choice of blending face-to-face and online components of course without losing focus on core concepts.	**162 (58%)**	92 (33%)	26 (9%)	280 (100%)
While f2f components typically occur within a local university, Blended learning can involve collaboration with students outside an institution.	**184 (66%)**	90 (32%)	6 (2%)	280 (100%)

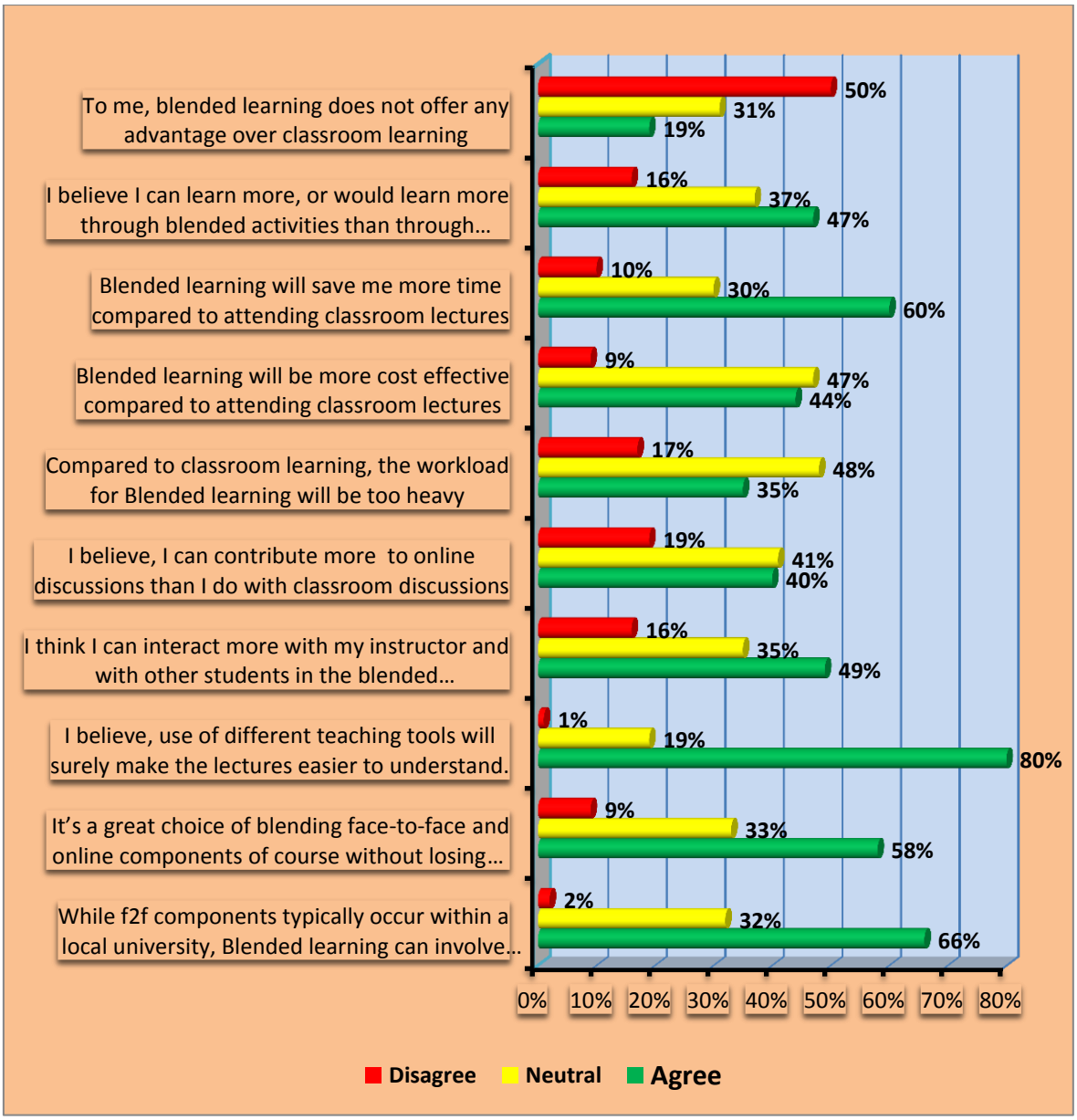


Table 5.53: View on Blended Learning by Respondents

5.2.5.15 *Factors Impacting Negatively on Convenient use of Blended learning*

Respondents were asked to mention their views and thoughts with regard factors impacting negatively on to convenient use of Blended learning. They were given eight factors related to blended learning on which they were to mention likely or unlikely or remain neutral in their opinion. The details of the responses have been shown in **Table 5.54.**

The first factor was “My ability to participate in group work”. On reply to this majority of the respondents that is 70% opted likely, 8% opted unlikely and 22% remained neutral towards it.

The second factor was “Make the lecture redundant as all information is on-line”. On reply to this majority of the respondents that is 45% opted neutral, 34% opted likely and 21% opted unlikely.

The third factor was “Less interactive/ lack of direct communications with tutors”. On reply to this majority of the respondents that is 42% opted neutral, 39% opted likely and 19% opted unlikely.

The fourth factor was “Lack of regular electric power supply on campus”. On reply to this majority of the respondents that is 48% opted likely, 19% opted unlikely and 33% remained neutral towards it.

The fifth factor was “My level of access to computer and internet connectivity”. On reply to this majority of the respondents that is 60% opted likely, 13% opted unlikely and 27% remained neutral towards it.

The sixth factor was “The University campus environment”. On reply to this majority of the respondents that is 60% opted likely, 14% opted unlikely and (6% remained neutral towards it.

The seventh factor was “My level of computer and internet skills”. On reply to this majority of the respondents that is 51% opted likely, 14% opted unlikely and 35% remained neutral towards it.

The eighth factor was “My other personal obligations”. On reply to this majority of the respondents that is 49% opted neutral, 38% opted likely and 13% opted unlikely.

Therefore, from the table it is clear that certain factors are there which are likely to create hindrances in the path of convenient use of blended learning by the LIS students and research scholars' of North East India. **Figure 5.54** shows the graphical representation of the same.

Table 5.54: Factors with Negative Impact on Convenient use of Blended learning

Factors	Likely Nos. | %	Neutral Nos. | %	Unlikely Nos. | %	Total Nos. | %
My ability to participate in group work	**196** **(70%)**	62 (22%)	22 (8%)	280 (100%)
Make the lecture redundant as all information is on-line	96 (34%)	**126** **(45%)**	58 (21%)	280 (100%)
Less interactive/ lack of direct communications with tutors	109 (39%)	**117** **(42%)**	54 (19%)	280 (100%)
Lack of regular electric power supply on campus	**133** **(48%)**	93 (33%)	54 (19%)	280 (100%)
My level of access to computer and internet connectivity	**169** **(60%)**	75 (27%)	36 (13%)	280 (100%)
The University campus environment	**167** **(60%)**	73 (26%)	40 (14%)	280 (100%)
My level of computer and internet skills	**143** **(51%)**	99 (35%)	38 (14%)	280 (100%)
My other personal obligations	107 (38%)	**137** **(49%)**	36 (13%)	280 (100%)

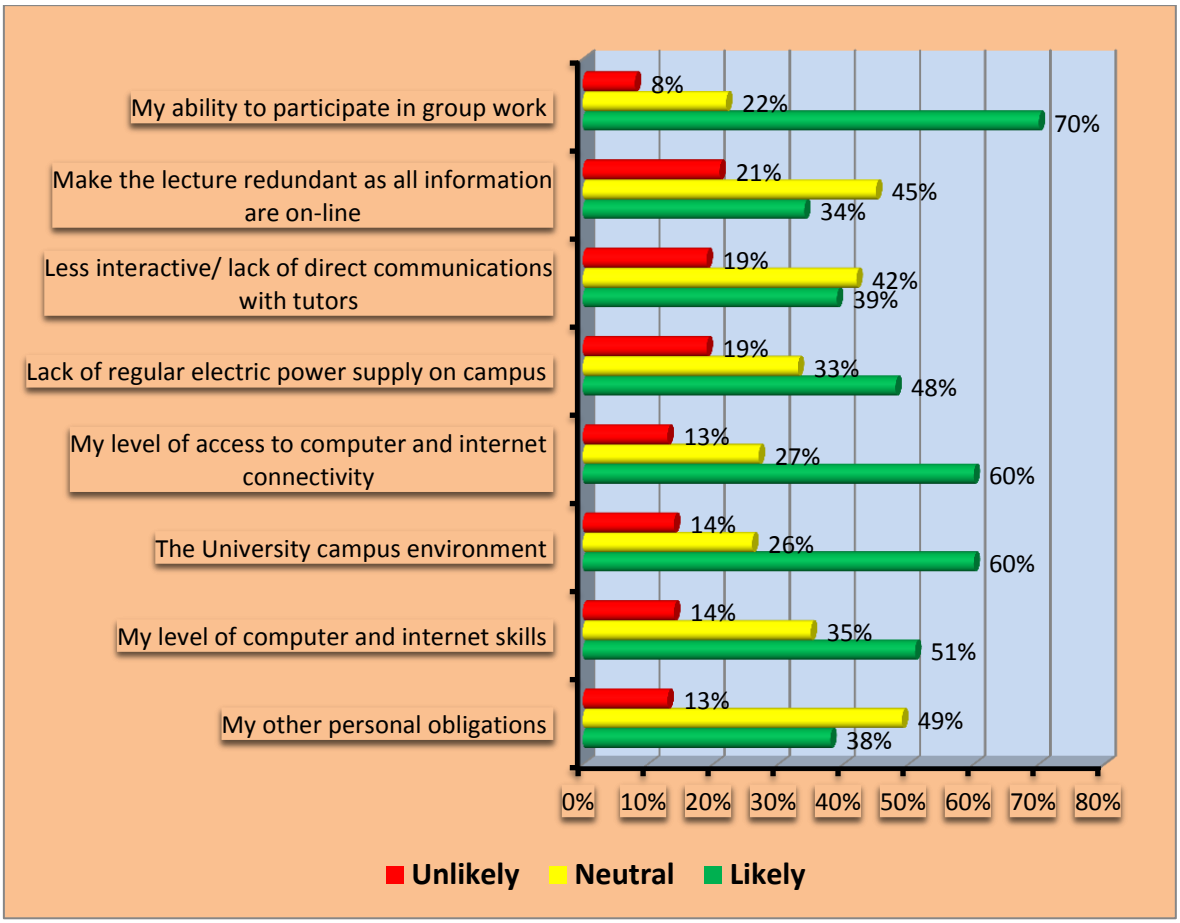


Fig 5.54: Factors with Negative Impact on Convenient use of Blended learning

5.2.5.16 *Factors Impacting Positively on Convenient use of Blended learning*

Respondents were asked to mention their views and thoughts with regard factors impacting positively on the convenient use of Blended learning. They were given five factors related to blended learning on which they were to mention likely or unlikely or remain neutral in their opinion. The details of the responses have been shown in **Table 5.55**.

The first factor was "Ensure to have instant contacts with lecturers". On reply to this majority of the respondents that is 82% opted likely, 1% opted unlikely and 17% remained neutral towards it.

The second factor was "Develop more online resources". On reply to this majority of the respondents that is 93% opted likely, 0% opted unlikely and 7% remained neutral towards it.

The third factor was "More inputs from students on the development of blended learning". On reply to this majority of the respondents that is 70% opted likely, 0% opted unlikely and 30% remained neutral towards it.

The fourth factor was "Ensure f2f interaction with the tutors is available as students require re-assurance and ongoing support from them". On reply to this majority of the respondents that is 73% opted likely, 2% opted unlikely and 25% remained neutral towards it.

The fifth factor was "Ensure to give students clear guidance on how to use blended learning". On reply to this majority of the respondents that is 85% opted likely, 1% opted unlikely and 14% remained neutral towards it.

Therefore, from the table 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. **Figure 5.55** shows the graphical representation of the same.

Table 5.55: Factors Impacting Positively on Convenient use of Blended learning

Factors	Likely Nos. | %	Neutral Nos. | %	Unlikely Nos. | %	Total Nos. |%
Ensure to have instant contacts with lecturers	**230 (82%)**	47 (17%)	3 (1%)	280 (100%)
Develop more online resources	**259 (93%)**	21 (7%)	-	280 (100%)
More inputs from students on the development of blended learning	**196 (70%)**	84 (30%)	-	280 (100%)
Ensure f2f interaction with the tutors is available as students require re-assurance and ongoing support from them	**205 (73%)**	69 (25%)	6 (2%)	280 (100%)
Ensure to give students clear guidance on how to use blended learning	**238 (85%)**	39 (14%)	3 (1%)	280 (100%)

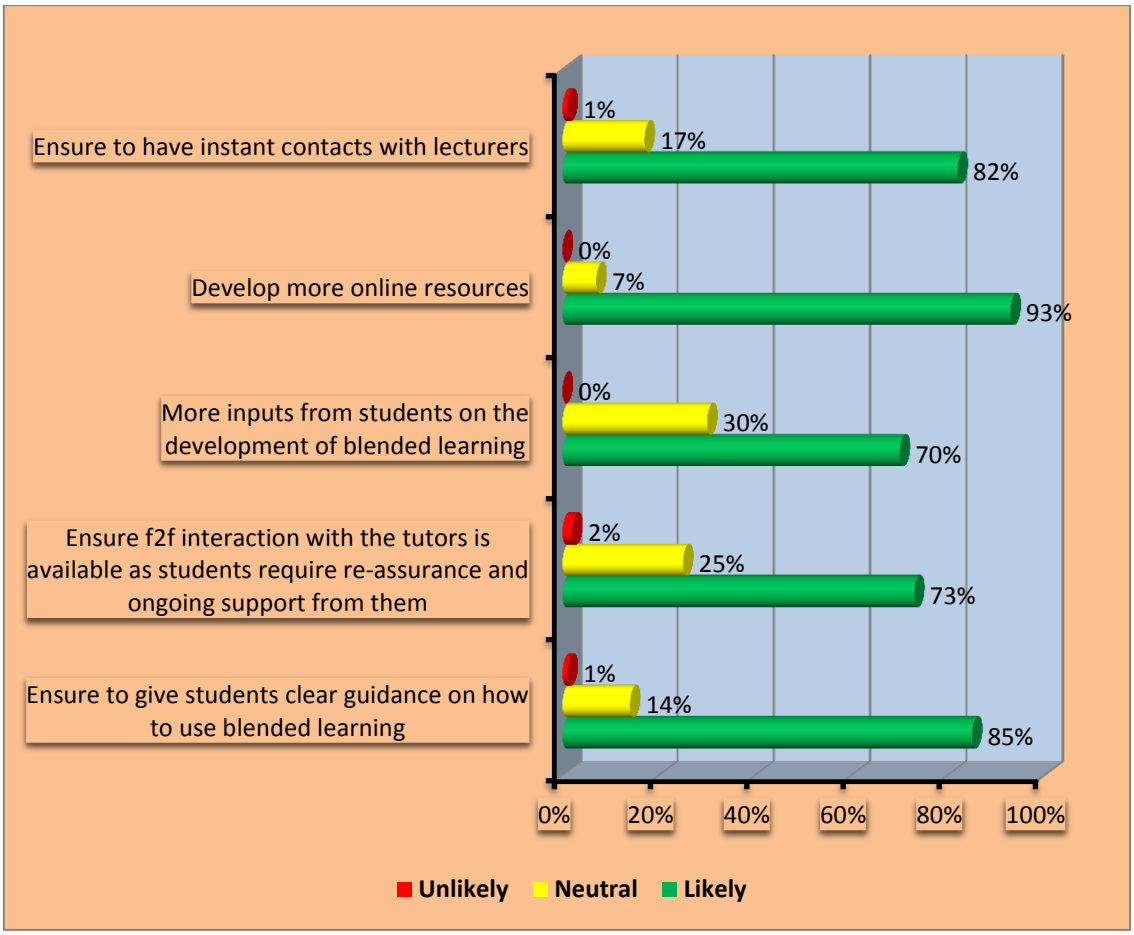


Fig 5.55: Factors Impacting Positively on Convenient use of Blended learning

5.2.5.17 ***Problems in Effective Use of Blended Learning by Respondents***

Respondents were asked to mention about the problems that are in the path of effective use of blended learning in LIS education. **Table 5.56** shows the responses to this question. It is to be noted here that multiple answers were permitted for this question. So, 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** shows the graphical representation of the same.

Table 5.56: Challenges in Effective Use of Blended Learning by Teachers

	Problems (Rank Wise)	Responses (N = 280)	Percentage
a)	Inadequate training in blended learning applications	256	91%
b)	Lack of penetration of ICTs in semi-urban and rural India.	214	76%
c)	Lack of support from administration /senior management which is vital	198	71%
d)	Lack of support from authorities for implementing blended learning applications in campus	188	67%
e)	Lack of course content, except in the IT domain	184	66%
f)	Lack of reliable communications infrastructure and equipments	182	65%
g)	Lack of teachers and experts for development, deployment, and delivery of the blended learning	170	61%
h)	Lack of psychological acceptance of new things	162	58%
i)	Lack of standards and a long gestation period for implementation.	156	56%
j)	Lack of interest	156	56%
k)	Lack of content in vernacular Indian languages as most of the content is still in English.	146	52%
l)	Lack of teachers' experience and understanding of the Blended method of teaching and learning programmes	136	49%

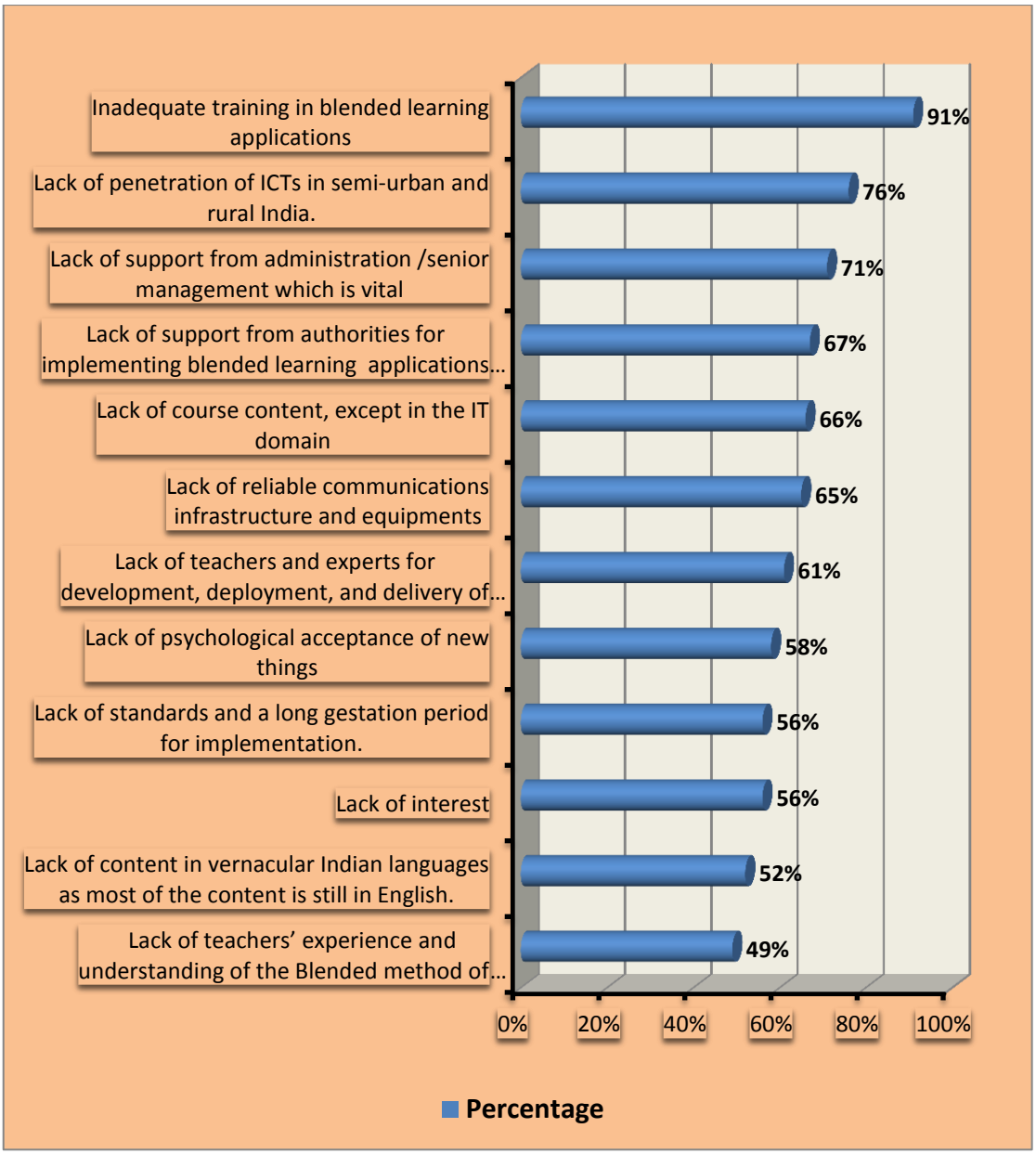


Fig 5.56: Challenges in Effective Use of Blended Learning by Teachers

5.2.5.18 *Preference of One Learning Tool by Respondents*

Respondents were asked to mention one learning tool which they would like to blend in with the traditional f2f teaching in their university so as to help them in better LIS learning experience. **Table 5.57** shows the responses to this question. It is to be noted here that multiple answers were permitted for this question. So, 80% of the respondents opted for PowerPoint, followed by Video Conference 35%, Online Discussion board 31%, Online

Chat Room and Blog each 23%, Wiki 16%, Online Forum 15%, Podcasting 7%, VLE 6% and Real Time Polling system 2%. **Figure 5.57** shows the graphical representation of the same.

Table 5.57: Preference of One Learning Tool by Respondents

	Tools (Rank Wise)	Responses (N = 280)	Percentage
a)	PowerPoint	224	80%
b)	Video Conference	98	35%
c)	Online Discussion board	86	31%
d)	Online Chat Room	64	23%
e)	Blog	64	23%
f)	Wiki	46	16%
g)	Online Forum	44	15%
h)	Podcasting	20	7%
i)	VLE	18	6%
j)	Real Time Polling system	6	2%

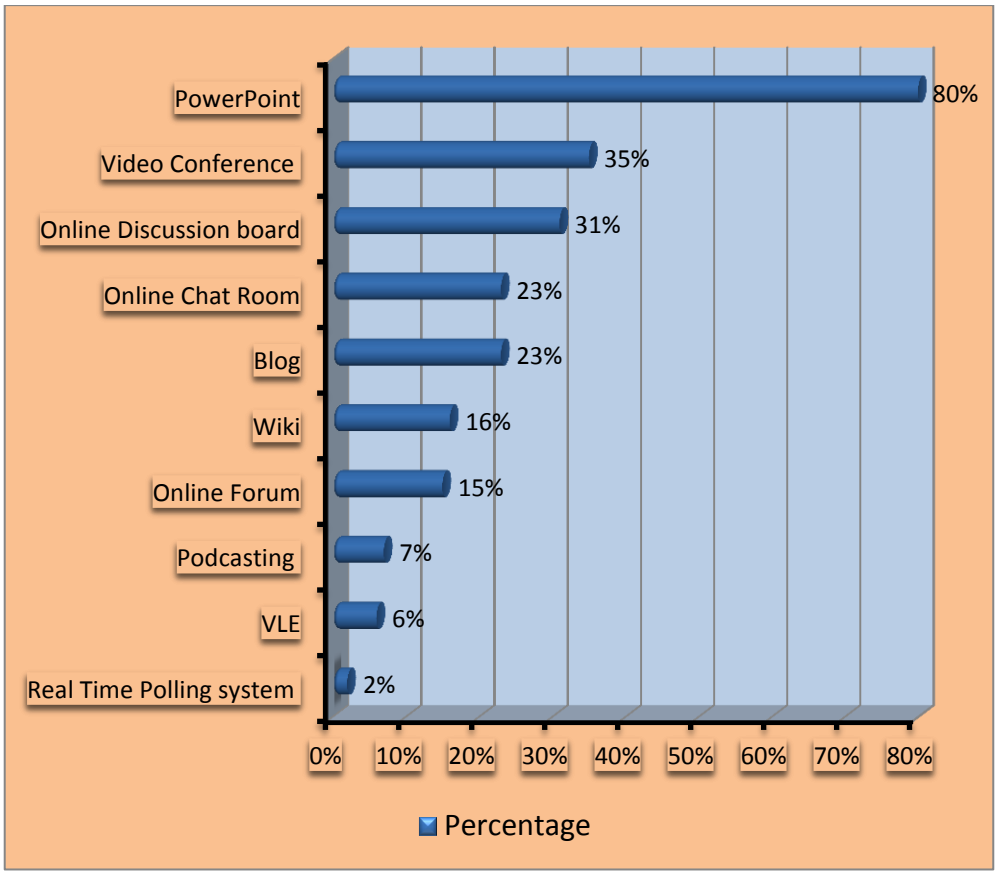


Fig 5.57: Preference of One Learning Tool by Respondents

5.2.5.19 *Advantages of Blended Learning According to Respondents*

In an open ended question, respondents were asked to mention the advantages of using blended learning course format. The important advantages mentioned by the respondents are detailed here. 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.
- It is extremely interesting for them also helping their knowledge to become more powerful.

- 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.
- 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.

5.2.5.20 *Disadvantages of Blended Learning According to Respondents*

In an open ended question, respondents were asked to mention disadvantages of using blended format of course. The important aspects related to this mentioned by the students and research scholars are as follows:

- 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.

5.2.5.21 *Suggestions and Comments of Respondents*

In an open ended question, respondents were requested to give their valuable comments and suggestions on the way learning can be blended for the up liftment of LIS education. The important suggestions mentioned by the respondents are as follows:

- 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.

5.3 CONCLUSION

Data collected through questionnaire-I and questionnaire-II, has been analysed in this chapter on various ground on Blended Learning in LIS education of universities of North East India, with the help of tables and graphs. The survey gives a clear picture regarding various aspects of Blended Learning like its awareness, use of blended learning tools, interest towards it and problems associated with it. So, by and large, from the survey it is observed that regarding the embracement of Blended Learning in LIS education, both LIS Teachers and students and research scholars are very much enthusiastic. But at the same time we cannot ignore the fact that proper infrastructure along with trained teachers is also required. The necessary infrastructure required for the managing Blended Learning in LIS education has to be developed for the optimum use of this method of education by the learner community. The LIS Teachers must also update their knowledge and skills regarding this. In the following chapter the major findings, observations and suggestions and further research are presented based on the research topic under study.