Chapter 9

SUMMARY, FINDINGS AND CONCLUSION

The study titled *Information and Communication Technologies in Education: A Study of Muslim Students in Silchar Town* analyses the access to, uses of, attitude towards and impact of ICTs in education of Muslim students. The study formulates the research problem on the basis of an extensive survey of the literature and draws inferences from analyses of the field data collected by administering structured interview schedule to the sampled 495 students studying in the higher educational institutions of Silchar town. The units of the study were selected from the universe of the students in Silchar town with the help of stratified random sampling technique. The collected data were organized and analysed through bi-variate and multivariate tables. The analyses were placed in the context of socio-economic and academic background of the respondents as well as socio-historical development of Silchar town. The socio-economic background of respondents includes family structure, religious, linguistic groups, etc. in Silchar town. Most of the male and female students belong to the General class category and the age group of 18-23 years. They hailed from both the rural and the urban settings of the north-Eastern region, and majority of them know languages like Hindi, English, Arabic and Assamese, including their mother tongues.

I

THE RESEARCH PROBLEM

Education is the action exercised by older generations upon those who are not yet ready for social life, to awaken and develop in the child those physical, intellectual and moral states required of him both by his society as a whole and by the milieu for which he is specially designed. Embedding the Information and Communication Technologies (ICTs) in the teaching and the learning process is a major initiative in all branches of education. The development and implementation of ICTs force today’s schools, colleges and universities to respond to societal trends that point to a transformation of our society into a knowledge economy. ICTs are rapidly expanding to allow access to resources necessary for undertaking studies and teaching in higher education, and linking students in new global networks. ICTs provide students and teachers with new tools that enable improved learning and teaching. ICTs can be successfully employed in diverse socio-economic and cultural contexts to reach out to a greater number of students including those to whom education was previously not easily accessible and help in promoting learning along with exposing students to the technical skills required for many occupations. They improve the learning process through the provision of more interactive educational materials that increase learners’ motivation and facilitate easy acquisition of basic skills. The use of ICTs such as Internet and computer applications, mobile phone and satellite television offers more engaging learning environment for students of all ages. Active and collaborative learning environments facilitated by ICTs contribute to the creation of a knowledge-based student population. Education integrates technologies in developed countries and among urban elites of advanced economies, thus, engaging students in creating new learning and teaching possibilities,
enhancing achievement and extending interactions with local and global communities. On the contrary, the unprecedented speed and general availability of diverse and relevant information provided by ICTs extends educational opportunities to the marginalized groups in the developing countries. In India, various ICTs have been employed over the years; viz., radio, satellite based one-way and interactive television, and Internet to promote primary, secondary and higher education. However, there have been found enormous residential and gender disparities in uses of these ICTs. It is evident from the field data that the significance of Internet, mobile phone and satellite/dish television including old communication technologies such as radio, television, telephone, etc. is growing in Silchar town, especially in education. The access to, uses of, attitude towards and impact of ICTs in education among Muslim students is variable in the context of residence, gender and class which is also different in North-Eastern region of India. Hence, the study addressed the question: What patterns of ICTs uses are perceived among the Muslim students pursuing higher education in Silchar town of Assam?

II
THE METHODOLOGY

The study was attempted to know the use patterns of ICTs in education among the Muslim students studying in higher educational institutions of Silchar town. For the study, empirical data were collected during 14 February 2011 – 29 February 2012 by the administration of an interview schedule to Muslim students comprising categories of both rural-urban residence and gender. The study focused on the social shaping of technology perspective which revealed the impacts of ICTs on Muslim students and society as ICTs are found to shape their requirements. Prior to empirical data collection from the respondents, the lists of students were collected from all the six degree colleges and the two national institutions; namely, Assam University and National Institute of Technology, Silchar. There were found total 9461 students in the institutions. Of them, there were 1413 Muslim students. The lists were divided by gender into males and females and further, each, by residence into rural and urban students under each year of programme of study. In all, 699 males and 716 females, and 848 rural and 565 urban Muslim students were obtained. Accordingly, considering the large size of the universe and ensuring adequate representation of all strata, a sample of 35% students was drawn from each of four strata in each year of the programme of study from 1413 Muslim students. Thus, the sample included 495 students: rural - 297 consisting of 152 males and 145 females and urban - 198 consisting of 93 males and 105 females.

III
FIELD OF THE STUDY

Silchar is the district headquarters town of Cachar district in the southern part of the state of Assam. Silchar came into prominence after the annexation of Cachar by the British in 1832. Gradually, Silchar evolved into a major urban centre in the North-East over years of one hundred and a half with the administration of Captain Fisher and was transformed from a cantonment town to an administrative headquarter. The Silchar Municipality was constituted in 1882 as a Station Committee. According to Municipality Act, 1956 of Assam, Silchar
Municipal Board was constituted with 30 members of which 28 are elected from the 28 Wards of the Municipality and 2 are nominated by the Government of Assam with a Ward Commissioner in each Ward. According to Census 2011, population of Silchar is 1,72,709 – 86,812 males and 85,897 females with sex ratio of 989 per 1000 males. Total literates in the town are 1,44,255 – 74,082 males and 70,173 females with average literacy rate of 91.74%, of which male and female literacy rate is 93.97% and 89.5% respectively. The reputed government and private educational institutes of the town are Government Girls’ H. S. & M. P. School, Government Boys’ H. S. School, Deennath Nabokishore School, Nursing Higher Secondary School, Holly Cross School, Silchar Collegiate School, Guru Charan College, Cachar College, Teachers Training College, Silchar Medical College, Silchar Polytechnic College, Arun Kumar Chanda Law College, Ramanuj Gupta Junior College, Surendra Memorial College, Assam University, National Institute of Technology, Sikkim Manipal University, etc.

The technological development of the town began with the establishment of AIR Silchar Station in 1973 and NIT, Silchar. The establishment of DDK in 1995, Silchar and cable TV has increased cultural as well as traditional values in the town. The introduction of computer in Silchar town replaced the typewriter. The radio was the first communication technology in Silchar town. BTN, cable television network, was established in 1996. Internet was introduced in Silchar town in 2002 by BSNL which provides Broadband, WLL and 3G Data Card for Internet to 2,22,00 users. Bharati AirTel started it operation in the town in 2005 with 75,000 users. Aircel, introduced in 2004, has 50,000 customers. The Reliance Telecom has 45,000 customers. Vodafone started its services in the town in 2007 and by now, it has 60,000 customers. Tata Indicom was started in 2009 and covered 10,000 customers. Idea was launched in 2009. There are near about twenty five thousand subscribers of Idea. All these public and private sector units provide pre-paid and post-paid mobile services to the people of Silchar town.

IV
THE RESPONDENTS

The educational background of the respondents reveals that two thirds (67.68%) are graduates and 32.32 % are post-graduates. They have taken formal education. Two thirds of the students are from Arts stream and the rest are from Science and Commerce streams. Two fifths are in the B.A. and M.A. programmes of study. Majority of them are in T.D.C. classes in colleges, followed by U.G. and P.G. semesters in the university and institute of Silchar town. Of the students, 98.59% follow English medium. Of the undergraduates students, over half (54.88%) have Honours course, followed by Pass course. Their Honours papers include Bengali, English, History, Accountancy, Political Science and Economics, Business Management, Chemistry, Mathematics, Botany, Biology, Persian, Hindi, Modern History, Anthropology and Social Science departments.

The socio-economic background of the respondents reveals that over a half (52.32%) belong to the age group of 18-20, nearly two fifths (39.39%) belong to 21-23 age group and the rest belong to age groups of 24-26, 27-29, 33-35, 36-38 and below 18 years. By gender, 49.49% are male and 50.51% are female. Most of the respondents belong to Sunni sect, followed by Shia and Sufi sects. Of the students, 90.71% belong to the General category, followed by the OBC and MOBC categories. More than two fifths, i.e., 42.31% are Manipuri
Muslim. Of the students, 60% are from rural setting and 40% from urban setting. Majority of the students are Bengali and the rest are Assamese, Manipuri and Hindi speaking.

The family background of the respondents reveals that three fourths have medium (5-8 members) sized family, followed by small (1-4 members) sized family (15.76%) and large (more than 8 members) sized family. Over four fifths (83.03%) have nuclear family, followed by joint family (16.97%). Nearabout three fifths (58.45%) of their family population belong to the youth age group, subsequently followed by middle age group (21.64%), old age group (15.34%) and children. Of the total family members, 51.78% are male and 48.22% are female. Over three fifths of the family members of the rural students are unmarried and the rest are married. Two fifths of the total family members (43.61%) are graduate, followed by Higher Secondary (H.S.) (22.61%), Post-graduate (11.8%) and (11%) Secondary/ H.S.L.C., Upper Primary/ Middle School, Primary, Professional, M. Phil. and Ph. D. Nearly a half of families of students (46.67%) have business and the rest have service (40.81%). One fourth of families the students (25.86%) belong to annual income group of Rs. 150001-200000/-, followed by Rs. 100001-150000/- (17.98%). Most of the family members of the rural and urban Muslim students know Bengali followed by Hindi and English. Males own family landholding among most of the students’ (91.52%) families and most of the families (96.63%) have 6-10 cottahs of landholding.

The living standard of the respondents reveals that over two fifths (41.82%) live in Assam type Pacca houses, followed by R.C.C. type houses (27.07%) and Assam type pacca houses with brick walls with tin roof. Most of the Muslim students (94.95%) have pacca rooms and pacca bathroom. Majority of the students (89.29%) live in their own house, get drinking water through the domestic connection of supply water (92.12%) and use concrete/ pacca latrine (99.39%). Over half of the students (55.76%) are from Barak Valley, followed by Silchar, rest of Assam, Eastern India, North-East, North India and West India. About three fifths of the students (59.8%) have been living in Silchar town since birth. Most of them Muslim students have L. P. G. stove, electric fan, dinner set, dining table, colour TV, radio, computer, mobile phone, etc. at their home. Over a half of the students (51.72%) can read the Quran. Nearly three fourth of male students (67.35%) wear shirt/ T-shirt-jeans pant and most of the female students (96.4%) wear salwar-kamiz. Majority of the students’ families (88.69%) use allopathic medicines to combat diseases.

ICT exposure among the students reveal that most of the students have access to TV (99.39%), newspapers (98.79%) and magazines (94.95%); majority have access to speed post (89.7%) and CD (82.02%), over three fifths (63.84%) access to Digital Versatile Disc (DVD), over a half access to radio (52.32%), over two fifths, each, access to telegraph (45.86%) and fax (42.42%). Distribution patterns of new ICTs among the students reveals that most of the students (99.8%) have access to mobile phone and Internet (91.52%) and majority have access to satellite/dish television (85.45%). Internet is found as the most effective ICT in education among three fifths of the students (75.15%) and the rest find mobile phone and satellite television as the most effective ICTs in education studying in the higher educational institutions in Silchar town.
V
THE FINDINGS

The major findings of the study are as follows:

A. Use Patterns of Internet in Education

1. Nearabout three fifths of the students (56.51%) access to Internet at home, a half access in cyber café (50.33%) and nearabout one third access in college, university and institute (30.91%) and the rest access at friend’s house, hostel and library, neighbour’s house and relative’s house. The number of rural students accessing Internet in cyber cafes is more than urban students who access most at home. Likewise, males access Internet in cyber cafes but females are confined to access it at home because males can visit public terminals without any hindrance.

2. Over two fifths of the students (41.94%) access Internet for two hours daily, one fifth, each, access Internet for one hour and three hours and the least access for four hours, over four hours or less than one hour. Thus, they access Internet for two hours which is found common among the rural male and female students. This is because the students access Internet during their spare time after study hours when they remain in the institute or at home.

3. Majority of the students (70.2%) are subscribers of mobile Internet connection, over one tenth (13.91%) subscribe Broadband connection while the rest subscribe WLL connection and dial up connection. Their gender and rural-urban distribution also reveal almost similar finding. The number of rural students getting Internet connectivity through mobile connection is higher than the urban students because it is less costly than Broadband connection which gives high speed for accessing data from Internet and perhaps, their family income levels are not putting restriction for opting this connection.

4. Bharat Sanchar Nigam Limited (BSNL) is found as the leading Internet service provider among more than a quarter of the students (27.81%), nearabout one fourth subscribe (22.3%) Airtel while the rest subscribe services from Tata Indicom, Aircel, Reliance Infocom, Vodafone, Idea and Videsh Sanchar Nigam Limited (VSNL). Of the rural male students, 29.45% subscribe BSNL’s Internet connection followed by Airtel (23.97%) while this fraction is higher among the rural female students (31.9%) in case of BSNL and Airtel (25.86%). The similar pattern is observed among the urban students. BSNL’s Internet connection is subscribed by majority of the students because it is leading in its services among people of Silchar town.

5. Over two fifths, each, of the students (43.05%) learnt using Internet through certificate and diploma courses while the least learnt through degree courses and by self-experience. Their gender and rural-urban distribution also reveals more or less similar finding. Thus, majority of the students started learning computer and Internet through short-term certificate and diploma courses because they took admission in these courses after completing their yearly academic examination.

6. The type of computing platform of nearabout three fifths of the students (58.28%) is Windows XP, over one fourth (28.92%) have Windows 7 and the rest use Windows
Vista, Windows 98, Windows 2000, Windows N. T., Windows 95, Windows Me and Solaris operating systems which are very insignificant among the students because of their outdated features. On the contrary, Windows XP and Windows 7 is found be used by majority of the students because these are widely in the town due to their updated features and functions. The fraction of rural students using Windows XP is higher than their counterparts because they are unaware about the functions of Windows 7. Moreover, the diffusion of ICTs is found earlier in the urban setting than the rural setting where it takes time to introduce new technologies due to lack of infrastructures.

7. Of the students, 61.37% use Microsoft Internet Explorer web browser, over one fourth use Mozilla Firefox (29.36%), over one tenth (11.92%) use MSN Explorer and the least uses Netscape Navigator, Hot java, Opera, Google Chrome and Ask.com which are found insignificant among them. Almost similar finding is observed from their rural-urban and gender distribution because Microsoft Internet Explorer with licensed anti-virus software programs protects PC from unwanted virus threats.

8. Of the students, 84.11% use Google for Internet surfing, followed by Yahoo (15.89%), over one tenth (11.26%) use Rediffmail and a small fraction use Hotmail, Google Chrome, Sify, Opera and Ask.com. Google users are found more in the urban setting than in the rural setting due to the high exposure of urban students to the new ICTs. They also use Google in mobile phone but the rural students do not have this facility in mobile phone because they cannot always go for subscription of Internet packs in mobile phone even if they have access to WAP.

9. Of the students, 50.99% use Gmail followed by Facebook (43.27%), nearabout one third (31.35%) use Wikipedia, over one tenth, each, (16.11%) use YouTube, Twitter (15.89%), Orkut (15.45%) and Yahoo Mail (12.36%) and only a small fraction uses Rediffmail, Hotmail, Berkeley, Hotpop and Sify. There is no significant difference found across their categories of gender and rural-urban residence. Gmail is used mainly for sending attached documents which is relevant for students. But use of Facebook is found more among the young people, particularly college/ university students because they share study-related information, pictures and videos with their friends, family members, teachers, relatives, etc.

10. Over a half of the students (56.29%) use Internet at home, nearabout a half (49.01%) use in cyber cafés, over one third (30.91%) use in educational institutions; namely, college, university and institute and a small fraction use in library, friend’s house, hostel, neighbour’s house and relative’s house. Over a half, each, of the rural students (55.68%) use Internet in cyber cafés, followed by home (51.65%), over one fourth (28.21%) use in the educational institutes. Rural males use Internet in cyber cafés but rural females cannot go to cyber cafés because of the patriarchal nature of the society and use it at home. This distribution is also found similar among the urban males and females. On the contrary, more than three fifths of the urban students (63.33%) use Internet at home, followed by cyber cafés (38.89%) and college/university/institute (35%). Thus, the urban students have more Internet facility than their counterparts who visit cafes which provide Internet access at a considerable payment.
11. Over two fifths of the students (42.6%) use Internet during free time, nearabout one fourth (24.94%) use in the afternoon, one fifths (20.09%) use in the evening, over one tenth use in the morning and the rest use Internet at night hours. The urban students avail Internet facility more during their leisure time than rural students. Suitable time for using Internet depends on their study-time. It indicates that when they remain free, they use Internet.

12. Over two fifths of the students (43.49%) use Internet for two hours daily, one fifth (20.09%) uses it for three hours, nearabout one fifth (19.21%) use for one hour and the rest uses for less than one hour, four hours and more than four hours per day. Thus, use of Internet for two hours in a day is found common among the students irrespective of their gender and residence. When they have more study-related works they use it for over four hours daily as they think that Internet helps them find reference materials at the eleventh hour.

13. Over a half of the students (52.54%) have been using Internet for last one to three years, over one fifth (21.85%) have been in touch with Internet for seven to twelve months, over one tenth (14.57%) have been familiar with it for four to six years while a small segment has been using Internet for less than six months and more than six years. The similar distribution is observed from their gender and rural-urban distribution. Thus, Internet was a new arrival in Silchar town a few years back which took time for students to become familiar with this new technology. Hence, they have been using it for last one to three years for education purpose.

14. Over a half of the students (52.1%) use Internet occasionally, one fifth (20.75%) use regularly, nearabout one fifth (18.76%) use it rarely and the rest use it frequently, during free time and sometimes. The similar finding is observed from their gender and rural-urban distribution. The difference found from their residential category show that the fraction of rural students using Internet occasionally is more among them while it is less among the urban students. Rather, the urban students use it more regularly than their counterparts because of their subscription of Internet facility at home with high speed Broadband connection.

15. Generally, three fourths of the rural students (75.46%) use Internet for searching study materials, subsequently followed by collecting information about anything (46.15%) and sending e-mails (23.81%). Similarly, over three fifths of the males (67.11%) and majority of the females (85.48%) use Internet for searching study materials. However, most of the urban students (91.11%) generally use Internet for searching study materials followed by collecting information (42.22%). Of them, majority of the males (83.33%) and most of the females (98.89%) generally use Internet for searching study materials.

16. The empirical data reveal that downloading study materials (73.29%), writing notes (53.64%) and sending e-mails to teachers and friends (44.59%) are found as the major educational purposes for using Internet among the students, followed by project preparing and preparing notes for their examination. Three fourths of the rural students (75.09%) use Internet for downloading study materials, followed by writing notes (45.42%) whereas more than three fifths of the urban students (70.56%) use it
for downloading study materials followed by writing notes (66.11%) and sending e-mails to teachers and friends (58.33%).

17. Over two fifths of the students (46.2%) send one to five e-mails in a month, nearabout two fifths (38.01%) send six to ten e-mails per month and the rest send eleven to fifteen and over fifteen e-mails per month. The fraction is high among the rural students than the urban students because they use e-mail feature of Internet during important works. They send e-mails to friends, teachers and family members for sending attached documents.

18. One third of the students (33.63%) receive more than six to ten e-mails per month, over one third (35.09%) receive more than fifteen e-mails, nearabout one fourth (24.27%) receive eleven to fifteen e-mails and the least get one to five e-mails. They receive e-mails from friends, teachers and family members who send important documents to them.

19. Over three fifths of the students (68.13%) have e-mail IDs in Gmail, over two fifths (41.23%) have e-mail account in Facebook and the rest have e-mail IDs in Yahoo, Rediffmail, Hotmail, Lsu, Berkeley, Hotpop, Sify and Orkut. Thus, the similar distribution is found from their gender and rural-urban distribution patterns. More number of the urban students has Gmail and Facebook accounts compared to the rural students because these websites have become very popular among the students due to which they have opened e-mail account in these websites.

20. Over three fifths of the students (69.3%) send e-mails for sending attached documents, over one fourth (27.49%) use e-mails for discussing study-related matters, over one tenth, each, (18.42%) and (14.33%) use e-mail for submitting home assignment and for communication. Thus, using e-mails for sending attached documents is found as the major purpose among the students irrespective of their gender and residence categories because students become busier and more serious about their studies and do not prioritize much time for instant messaging through social networking websites.

21. Three fifths of the students’ brother (60.14%) use Internet, nearabout one third’s (31.98%) sisters use Internet, one fifth’s (20.5%) father use Internet and the rest’s mother, uncle and aunty also use Internet in families. Over a half of the rural students’ (54.17) and over three fifths of the urban students’ (68.89%) brothers use Internet followed by sisters in their families. Thus, they belong to young age group who are interested in learning and using Internet. Besides, they can give time for Internet using because middle-aged people are more concerned about the family-bearing matters in case of male members of families and household chores in case of females members.

22. Nearabout three fourth of the students (72.19%) find World Wide Web as indispensable for them, nearabout two fifths (39.96%) consider e-mail, over one third (37.75%) consider online discussion, one fifth (20.53) considers video-conferencing over Internet, nearabout one fifth (18.32%) consider audio conferencing over Internet and the rest find digital signatures, streaming audio over Internet, streaming video over Internet, Java/Java script, Internet fax, Internet phone and 3-D environments indispensable to them. Over three fourths of the rural students (76.56%) consider the World Wide Web as indispensable feature of Internet technology while it is 65.56%
of the urban students consider the Web feature as indispensable for them because it is composed of all other important features of Internet technology.

23. Three fourths of the students (75.94%) retrieve information from Internet by taking print out of important information downloaded from Internet, over one fourth (27.37%) download in Compact Disc (CD)/pen drive, one fourth (25.17%) note down important information and the rest retain such information in memory. More urban students than rural students retrieve information from Internet by taking print out of the reference materials. The similar finding from their gender distribution. Thus, printing materials are concrete and the students find it easy to read from these materials.

24. Over two fifths, each, of the students (46.58%) like Internet to a larger extent and to the largest extent (41.94%) and a small fraction likes it to a large extent and cannot say about the extent of likeness. There is no significant difference found across their gender and residence categories. Thus, the students like Internet to a larger Internet because the success of the electronic study largely depends on students’ willingness to accept it.

25. Over a half of the students (55.85%) find Internet moderately effective, nearabout two fifths (39.51%) find extremely effective and a small fraction cannot say whether Internet is effective in education or not and find not effective in education. Their gender and residence categories. Three fifths of the rural students (60.81%) and nearabout a half, each, of the urban students (48.33%) Internet feel moderately effective and extremely effective (46.11%).

26. Nearabout a half of the students (49.01%) feel comfortable in using Internet, over two fifths (46.36%) feel very comfortable in using Internet and the rest feel neither comfortable nor uncomfortable in using Internet, uncomfortable and very uncomfortable. The reason behind their negative is that interaction and quality of interaction among the students are considered as an essential part of the academic process which is lacking in case of Internet.

27. Nearabout a half of the students (49.89%) feel satisfied, over two fifths (45.03%) feel very satisfied and the least feel neither satisfied nor unsatisfied, unsatisfied and very unsatisfied. Over a half of the rural students (52.01%) feel satisfied followed by very satisfied (43.59%) but nearabout a half of the urban students (47.22%) feel very satisfied and over two fifths (46.67%) feel satisfied.

28. Nearabout three fourths of the students (72.19%) agree that use of Internet makes study interesting, over one fifth (22.52%) absolutely agrees to it and the rest cannot say, disagree and absolutely disagree to the statement. Over three fifths (71.43%) agree to the statement. By and large, similar finding is observed from categories of genders and residences.

29. Majority of the students (89.18%) agree that they like to search topics from Internet and the rest absolutely agree, cannot say and disagree to the statement. But there is absolute disagreement found among these students. More urban students (91.67%) than rural students (87.55%) like to search topics from Internet because after writing a topic on the search engine and clicking on the search button, they find optional results which make them like to search topics from Internet.
30. More than three fifth of the students’ (71.3%) source of motivation for using Internet is less time consuming, nearabout one third (32.01%) use it because it is very easy to find materials and the rest use it for low cost, etc. Less time consuming is found as the major motivating factor for increasing use of Internet among the rural-urban male and female students because Internet saves a lot of time.

31. The impact of Internet on students reveals that one third of the students (33.97%) shared study materials via Internet/ e-mail. Internet improved gender relations with female/male friends through e-mail, online discussion, etc./ reduced gender gap among one third (33.43%). There is also found similar distribution across their categories of gender and residence.

32. The advantages of Internet in education among the students reveal that nearabout two fifths (38.63%) opine that they got reference materials on Internet to complete home assignments, project preparation, etc. and it is the major advantage of Internet using in education and two fifths (25.83%) are of the opinion that it is less time consuming technology. These findings are found similar across their gender and rural-urban categories.

33. Disadvantage of Internet in education among the students show that nearabout one fourth (23.4%) find it is discouraging to use books, printed materials, etc., near about one fifth (18.98%) are of the opinion that excessive dependent on Internet is an important disadvantage, over one tenth, each, are of the view that spending excess time on Internet (13.69%) and lack of authenticity of materials (13.47%) are disadvantages of Internet. Although Internet is encouraging self-study among the students, it is found to discourage them in using printed materials and searching materials from libraries.

34. Views for increasing use of Internet among the students reveal that nearabout one third (31.35%) are of the opinion that ISPs should look after the server problem, over one tenth, each, (13.91%) are of the view that less posting of unwanted advertisements on Internet, providing digital environment in colleges/ universities (13.25%) and signing out after entering into new websites with e-mail ID (11.04%) can help increase use of Internet among the students irrespective of their gender and residence.

B. Use Patterns of Mobile Phone in Education

1. Most of the students (93.93%) have pre-paid mobile connection and the rest subscribe post-paid mobile connection. The similar patterns are found across their genders and rural-urban residences. The students subscribe pre-paid mobile connection because it is reasonable for them and they manage their payment of mobile bill from family members.

2. Over one fourth of the students (28.95%) use BSNL which is public sector provider, one fourth (25.1%) use Airtel, over one tenth, each, are subscribers of Vodafone (15.79%), Aircel (13.56%) and Reliance (12.55%), one tenth (10.73%) use Tata Indicom and the rest use Idea which are all private sector providers. By and large, the similar pattern is found across their gender and rural-urban residence categories.
BSNL’s service is accessed by students because it is one of the leading mobile as well as Internet service providers of Silchar town.

3. Irrespective of gender and rural-urban residence categories, all the students access to telephone and short messaging service (SMS). Most of the students (97.37%) access to colouring set, audio player, digital camera, video player and WAP (87.45%), half (50.61%) access MMS, over one third (35.43%) access FM radio and the rest have 3G service. But the urban male students do not have black & white set. Thus, with the introduction of mobile phone with new features and facilities the students are likely to access these features. Possession of handsets with the latest features is preferred by most of the students.

4. Generally, over a half of the students (52.83%) receive six to ten incoming calls in a day, subsequently followed by eleven to fifteen incoming calls (28.95%), one to five incoming calls (11.13%) and more than fifteen calls. This pattern is found similar across their gender and rural-urban categories. Majority of them receive 6-10 incoming calls because they are called by friends, family members, teachers, etc. during their availability in the educational institutions.

5. Over a half of the students (53.85%) generally make six to ten outgoing calls per day and nearabout one fourth (23.48%) of them make eleven to fifteen outgoing calls. The rural students make more outgoing calls ranging from 6-10 calls than urban students. The urban males make more outgoing calls ranging from 11-15 calls than their counterparts who very often do not make many calls. Thus, differences in using outgoing calls are found among them because it depends on the situation.

6. Generally, nearabout a half of the students (48.58%) receive six to ten SMS/MMS per day, nearly one fourth (24.9%) receive eleven to fifteen SMS, over one tenth (16.6%) receive one to five SMS and the rest receive more than fifteen SMS on their mobile phone. Males receive 11-15 SMS but females receive 6-10 SMS daily. Thus, males generally use SMS service more than females.

7. Over a half of the students (51.82%) send six to ten SMS/MMS in a day, nearabout one fourth (23.89%) send eleven to fifteen SMS, over one tenth (13.97%) send one to five SMS and the rest send more than fifteen SMS/MMS. The rural students mostly send 6-10 SMS but urban students mostly send 11-15 SMS daily. It indicates that use of SMS is found more among the urban students compared to rural students.

8. Irrespective of genders and rural-urban residences, all the students call friends most of them (96.76%) call family members & teachers (82.1%) and over a half (53.85%) call relatives. Their gender and rural-urban distribution also reveals similar findings. Thus, they call friends most because they discuss many study-related matters.

9. Irrespective of genders and rural-urban residences, all of the students are called by friends, most of them are called by family members (97.57%) & teachers and over three fifths, each, are called by relatives (66.19%) and teachers (62.15%). Thus, their friends, family members and teacher because it depends on their need.

10. The frequency of calling in a day among the students shows that over three fifths (66.8%) make phone calls very frequently – almost daily, over one fourth (28.74%) make calls frequently – 3-4 calls and the rest make calls less frequently – at least 1
call. Their gender and rural-urban distribution reveals the similar findings because they make more phone calls everyday.

11. The frequency of receiving calls among the students reveals that over three fifths (68.12%) receive phone calls very frequently - almost daily per day, over one fourth (28.14%) receive frequently or 3-4 calls and the rest receive less frequently - at least 1 call. This distribution is found common among the rural and urban students because they discuss study-related things with other students and they want to stay connected with them.

12. Most of the students use mobile phone to stay in touch with friends as well as to discuss study related things with friends, over three fourths use mobile phone to communicate with teachers (79.35%) and nearabout three fourths (72.47%) use it to stay in contact with family members as well as to seek emotional support from them. As their family members are the mode of acquiring mobile phone among the students, they use it mainly for study purpose.

13. Most of the students (90.48%) keep mobile phone for genuine need for communication, near about one fourth (23.88%) keep it with them because it is a status symbol in society. By and large, similar pattern is found across their genders and rural-urban residences. It is genuine need for communication among the students because they feel secured with mobile phone.

14. The average monthly mobile phone bill of over a half of the students (57.29%) ranges from Rs. 100/- to Rs. 200/- in a month, near about one tenth (18.62%) pay Rs. 201/- to Rs. 300/-, over one tenth (14.37%) pay within Rs. 100/- and the rest pay more than Rs. 300/-. As the students are dependent on family members, majority of them (82.9%) pay their mobile phone bill through family members who include parents, mother, brother & sister and nearabout one fourth (22.27%) pay themselves. Thus, majority of the students pay from Rs. 100/- to Rs. 200/- in a month because they do not make many calls which range from 6-10 or sometimes more than 15 calls.

15. Among other family members who use mobile phone in families of students, most of the students’ (92.31%) fathers use mobile phone, near about three fourths’ brother (72.27%) use mobile phone, three fifths’ mother (60.53%) use it, two fifths’ sisters (40.08%) use it and the rest of the students’ uncle, aunty and wife use it. Fathers of the students deal with things outside home and perhaps, they use it most.

16. Study-related incoming calls in a day reveal that over three fifths of the students (64.37%) receive one to five study-related incoming calls on mobile phone per day and near about one third (31.38%) receive six to ten such calls. The gender and rural-urban distribution also reveals similar findings because though generally the students receive many incoming calls, their study-related incoming calls depend on their need.

17. Study-related outgoing calls in a day show that over three fifths of the students (66.19%) make one to five study-related outgoing calls on mobile phone in a day and near about one third (30.57%) make six to ten calls. There is similar patterns emerged from their gender and rural-urban distribution.

18. Over three fifths of the students (64.37%) receive one to five study-related incoming SMS/MMS on mobile phone per day and the rest receive six to ten SMS/MMS
(30.57%) because they receive useful information from friends which is helpful in their studies.

19. Over three fifths of the students (65.99%) make one to five study-related outgoing SMS/MMS on mobile phone in a day and over one fourth (28.14%) make six to ten SMS. This pattern is found common across their gender and rural-urban categories because study-related outgoing SMS are less compared to sending general SMS.

20. The educational purposes of using mobile phone reveal that over a half, each, of the students (56.28%) use mobile phone for making communication with teachers and friends & disseminating study-related information (51.62%) and over one fourth (29.15%) use mobile phone for using mobile Internet for searching materials/ sending e-mail through mobile Internet/ using social networking website to communicate with friends, teachers, etc. Thus, they purchased mobile phone mainly for communication with class-mates and teachers. They use it for communication with parents because they feel secured when they are out of home for tuition, classes, etc.

21. The switch off timings of mobile phone show that over three fifths of the students (63.56%) keep mobile phone switched off while attending classes and one third (33.6%) keep it switched off during sleeping at night. Their gender distribution also shows similar findings but rural male and urban female students do not keep mobile phone switched off during tuition in the evening hours because their parents call them and ask them regarding the tuition classes.

22. The silence mode timings of mobile phone among the students reveal that over two fifths of (47.57%) keep mobile phone in silence mode during sleeping at night, over one third (36.23%) keeps it in silence mode while attending classes, nearabout one fourth (23.48%) put it in silence mode during prayer, over one tenth, each, keep it in silence mode during study time (14.17%) and during meeting with teachers (11.94%). Thus, they keep mobile phone in silence mode because if they switch off it, they miss important calls and therefore, they keep it in silence mode.

23. The extent of likeness of mobile phone reveals that over a half of the students (56.68%) like mobile phone to a larger extent, followed by to the largest extent (30.97%), to a large extent and cannot say about it. It indicates that over average students like it because of new features of mobile phone.

24. Effectiveness of mobile phone among the students shows that it is moderately effective in education among over three fifths of the students (68.42%) and extremely effective among nearabout one fourth of the students (22.87%). Thus, irrespective of their gender and residence categories, the similar finding is observed due to the fact that the students use it making communication with their class-mates and sharing and receiving information through mobile phone.

25. The level of comfortability with mobile phone among the students reveals that nearabout three fifths (58.7%) feel comfortable in using mobile phone while over one third (34.01%) feels very comfortable with it. But rural students do not feel very uncomfortable with mobile phone. Thus, mobile phone is accessed by majority of the students and its possession does not require much amount of money.

26. The level of satisfaction with mobile phone reveals that over a half of the students (57.89%) feel satisfied over one third (34.62%) feel very satisfied. By and large, their
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gender and residence reveal similar finding. The feel satisfied because mobile phone is cost-effective and portable to carry.

27. Three fifths of the students (60.93%) absolutely agree that text messages can be useful for communicating and disseminating any information for communication while nearabout two fifths (37.25%) agree to it. By and large, the similar finding is observed across gender and residence categories. They absolutely agree to it because text messages are cost-effective and they send unlimited SMS with message packs.

28. Internet facility is available in mobile phone also. Thus, majority of the students (81.38%) agree that mobile Internet facility helps search study materials to students and one tenth (10.73%) absolutely agree to it. But the rural male students do not absolutely disagree to the statement because majority of them are in favour of it as it provides links to the web texts which are saved and downloaded from the World Wide Web by the students.

29. Over three fifths of the students (68.42%) agree that mobile phone helps making m-learning possible and nearly one fifth (20.65%) absolutely agree to it. There is no significant difference found across their gender and rural-urban residence. Learning with mobile phone is called m-learning and there is a positive attitude among majority of the students because they are in favour of this learning which needs to be increased among the students.

30. The motivating factor in using different features of mobile phone among the students reveal that nearabout three fifths of the students (72.27%) feel the convenience of mobile phone to carry with them, nearabout one third (30.36%) find the low cost of mobile phone and nearly one tenth (17%) is motivated by the utility for coordinating educational events like students’ meet, functions, etc.

31. The impact of mobile phone among the students reveals that it made easy communication with students from any place among over a half of the students (54.55%) and one fifth (20.45%) is of the opinion that it expanded and strengthened relation among people. The students instantly send and receive messages and any information on studies which was earlier not possible for them.

32. The impact of mobile phone on students’ families show that it reduced over two fifths of the students’ (45.78%) expenditure of families spent on landline telephone bills and for nearly one fourth of students’ (24.1%) families it is a good medium for business purpose. The landline telephone sometimes did not give proper services to families and there was billing problem in every month. Thus, it is preferred by family members of students because it is portable from one place to another.

33. The impact of mobile phone on gender relations reveals that nearabout two fifths of the students (37.64%) communicated male & female friends for study purpose & shared study-related information with them and nearabout one fifth (17.01%) discussed urgent works with friends. There is no significant difference among the students across their categories of genders and residences. Thus, it indicates that mobile phone has improved gender relations among friends, family members, etc.

34. Over three fifths of the students (68.22%) face network problem where no signal is available and over one tenth (12.96%) faces the problem of recharging the account balance. Similarly, their gender and rural-urban distribution also depicts similar
findings. Error in network connection is faced by students most because there is no tower in places outside the town. Thus, it becomes difficult for them to contact people.

35. The usefulness of mobile phone for education reveals that nearabout two fifths of the students (39.88%) find it very useful in providing and obtaining & disseminating information through phone calls/ SMS while nearabout one third (31.37%) are maintaining good relation among friends, class-mates and teachers through mobile phone. Mobile phone has facilities of storing and managing information which are further used by the students during time of their needs.

C. Use Patterns of Satellite/ Dish Television in Education

1. Nearabout three fifths of the students (59.57%) subscribe dish TV, over one fourth subscribe cable television connection (27.66%) and the rest have Doordarshan’s Direct-to-Home (DTH) service. The rural-urban comparison reveals that 75% of the rural students have dish TV, 16.39% have Direct-to-Home (DTH) and the rest have access to cable TV connection. On the contrary, 53.07% of the urban students have cable TV connection, 38.55% have dish TV and rest can get access to the Direct-to-Home (DTH) service. The similar pattern is observed from their gender distribution.

2. Over one fourth of the students (28.61%) use AirTel digital TV, followed by cable operator (27.19%), over one tenth, each, (17.26%) use Tata Sky and Doordarshan (D. D.) DTH (13%) and the least use Sun TV, Videocon d2h, Reliance Big TV and Samsung Dish TV. The study found eight categories of satellite television providers; viz., cable operator, AirTel, Sun TV, Tata Sky, Videocon d2h, Doordarshan (D. D.) DTH, Reliance Big TV and Samsung Dish TV. Among them, AirTel digital TV is found as the major satellite television provider after cable operator because being the private sector unit it provides reasonable access to pay television channels in the rural and urban areas.

3. Over one tenth, each, of the students (17.26%) installed satellite TV at their home in 2007, 2005 (14.66%), 2008 (13.95%), 2006 (13.48%). Of the rural students, 22.95% installed the satellite television in 2007, 19.26% installed the satellite television in 2008 and over one tenth, each, (14.34%) installed in 2009, 2005 (13.52%), 2006 (12.7%). Over one tenth, each, of the urban students installed the satellite television in 2004 (16.76%), 2005 (16.2%), 2003 (11.17%) and 2006 (14.53%). Thus, the highest fraction of the rural students has been using satellite TV since 2007 but it is in 2004 in case of the urban students.

4. The patterns of satellite television channels reveal that two fifths of the students (43.03%) have 201-300 channels, over one fourth (27.9%) have 100-200 channels and nearabout one fourth (23.4%) have 301-400 channels. The similar pattern is observed across their gender and residence categories. The students do not afford many channels because it depends on their family income and they find it difficult to choose a particular television channel in the presence of multiple channels.

5. The source of knowing telecast schedule reveals that majority of the students (86.76%) know the telecast schedule of programmes from television transmission, nearabout one fifth know it from friends (19.86%) and newspaper (19.39%).
Similarly, majority of the rural and urban students also know the telecast schedule from television because it is the primary source of getting the timings of television programmes. When one TV programme ends, the timings of other programmes are also telecast.

6. The preferred language for viewing TV programmes show that nearabout three fifths of the students (58.63%) prefer to view television programmes in English, over a half (52.48%) view in Hindi, near about one tenth (30.02%) prefer to view in Bengali and the rest view in Urdu, Assamese, Manipuri and Mizo. The similar distribution is found across their gender and rural-urban categories. English is foreign and official language of India as well as the rest of the country. The students prefer it because they want to learn communication and writing skill.

7. The most viewed TV programmes among the students reveal that three fifths of the students (71.36%) view programmes related to one’s subject, over two fifths (43.74%) view news, near about two fifths (37.83%) view current affairs & general knowledge and nearabout one fifth (18.91%) view entertainment & musical programmes. The similar pattern is found across their categories of gender and rural-urban residence. Thus, the students prefer to view educational programmes to supplement their existing knowledge.

8. Nearabout of the students (30.42%) watch Discovery Channel and over one fifth (15.57%) watch Gyan Darshan channel among the satellite television channels. By and large, similar distribution is found across their genders and residences. These are educational channels and telecast varieties of knowledge-based programmes which increase their knowledge and helps remain updated.

9. Frequency of watching educational television programmes among the students reveal that two fifths (40.43%) watch educational television programmes once a week, nearabout one third (32.86%) watch regularly, nearabout one fifth (18.2%) watch programmes sometimes and the rest watch once a fortnight. More rural than urban students watch educational television programmes once a week than urban students because urban students spend time on using other ICTs such as Internet and mobile phone.

10. The medium of instruction in educational television programmes among the students reveals that nearabout three fifths (57.45%) followed English, over two fifths (43.97%) followed Hindi, nearabout one fourth (22.93%) followed in Bengali and the rest watched in Assamese, Urdu and Manipuri. It is evident from the data that the students are eager to understand the language structure of English and want to speak it fluently.

11. Contents of programmes viewed among the students reveal that over three fifths (71.87%) view supplementary programmes, nearabout a quarter (23.4%) view enrichment-oriented programmes and the rest watch text-book based. There is no significant difference across their categories of genders and residences because the main purpose of educational programmes is to supplement information in students’ studies and make them more updated.

12. Types of topics in educational television programmes reveal that three fifths (60.05%) view discussion-based programmes, nearabout one fourth, each, (22.46%) view
dramatization of educational programmes and conversation-based programmes (22.22%) and the rest watch documentary programmes. Thus, the similar pattern is observed from their rural-urban residences because discussion-based programmes help increase the level of understanding among the students.

13. Types of educational television programmes show that over three fifths of the students (61.23%) view IGNOU programmes, near about one fourth (24.11%) view scientific, geographical, cultural, historical, engineering & entertainment-based educational programmes/quiz shows and over one tenth (14.18%) view UGC programmes. More rural than urban students and more females than males view IGNOU programmes.

14. Types of educational television problems reveal that nearabout a half of the students (48.46%) face clarification of doubts after viewing a programme which is not available, over one fourth (27.9%) face the problem of not enough coverage of subject of one’s choice, over one tenth (16.78%) face insufficient details to understand a topic, one tenth (10.87%) face using English making it difficult to follow contents and the rest face difficulty to search educational television channels on a dish TV remote. There is similarity among the students on the problems of educational television programmes because there is no direct interaction between the learner and the tutor for which it becomes difficult for the students to follow the contents of the programmes.

15. The extent of likeness of satellite television depicts that over a half of the students (51.54%) like satellite/dish television to a larger extent, over one fourth (27.9%) like it to a large extent, nearabout one fifth (17.02%) like it to the largest extent and the rest cannot say about it. There is no significant difference among the students in respect of gender and residence because they like it moderately.

16. Effectiveness of satellite TV in education among the students demonstrate that it is moderately effective in education among nearly three fifths (58.63%), nearly one fifth (19.39%) cannot say and over one tenth (15.6%) find it extremely effective. Thus, it is moderately effective in education because there is no face-to-face contact among the students and instructors. Moreover, it is extremely effective in the sense that it provides useful information to the students.

17. The level of comfortability with satellite/ dish TV reveal that over three fifths of the students (60.05%) feel comfortable with satellite/ dish TV, subsequently followed by very comfortable (22.22%), neither comfortable nor uncomfortable (13.24%), very uncomfortable and uncomfortable. Their categories genders and rural-urban residences reveal similar patterns. They feel comfortable with satellite TV because it provide scientific, historical, geographical, etc. programmes which are essential for Arts and Science as well as Commerce students.

18. The level of satisfaction with satellite/ dish TV among the students reveal that over a half of them (57.45%) feel satisfied with satellite/ dish TV, followed by very satisfied (20.8%), neither satisfied nor unsatisfied (17.26%), unsatisfied and very unsatisfied. Thus, their level of satisfaction also varies across genders and residences but depicted the similar patterns. They feel satisfied because they gathered knowledge from educational television programmes.
19. Nearabout three fourths of the students (74.7%) are motivated by multiple channels provided by satellite TV on education, subsequently followed by (45.39%) multiple programmes on education and awareness about different educational programmes. Thus, they find options to choose specific educational as well as general programmes.

20. The impact of satellite TV among the students reveal that three fifths (70%) gathered new ideas & information about subjects, techniques of learning by watching educational programmes, over one tenth (11.43%) watched new trends and changes & changed life style and one tenth (10.95%) were made aware about updated happening. The rural-urban difference among students shows that the rural students gathered new ideas & information about subjects, techniques of learning by watching educational programmes. The urban students were more influenced by this factor than rural students updated trends were inculcated among them by these programmes.

21. The impact of satellite/ dish TV on neighbourhood depict it that made neighbours aware about new technologies in communication network according to over one third of the students’ (37.5%), over one fifth’s (21.43%) neighbours obtained information on new and latest market products and it changed neighbours’ life styles (19.64%). Thus, the findings suggest that satellite TV is adopted by students’ neighbours also by observing their possession of it.

22. The impact of satellite TV on gender relations reveals that over two fifths of the students (41.64%) viewed educational programmes with both male and female family members in their families, over one fourth (28.67%) are of the opinion that it improved gender relations by viewing family drama and providing programmes for both gender and nearabout one fifth (17.06%) shared educational programmes through mobile phone. Thus, it is concluded that satellite TV has improved gender relations among the students.

23. The usefulness of satellite/ dish TV reveals that majority of the students (88.42%) opine that it is very useful in accessing to educational programmes that enriches general knowledge & supplementing study through Discovery channel educational programmes helped develop command in English among the students which increased their level of understanding.

VI
SUGGESTIONS AND RECOMMENDATIONS

Based on the findings in the chapter, a few suggestions and recommendations are made for empowering the students through Internet literacy for the optimum utilisation of Internet facilities and access to the available online resources. Now, there are put forth a few suggestions in this regard to use Internet in education among the students.

1. Access to Internet should be provided in all colleges/ universities. Computer-mediated instructions can increase its use.

2. Creation of learning environment in departments of colleges/ university via Internet by providing computer and Internet facility to students by the education institutions can increase its use.
3. Providing access to use Internet in the backward region can lessen digital divide among ‘information-haves’ and ‘information-have-nots’.
4. Reducing the cost of computers and better service by ISPs can increase affordability of students to access Internet.

Now, there are put forth a few suggestions in this regard to use mobile phone for m-learning in education among the students.

1. There is a need to shift the focus of disadvantages of mobile phone away such as fear of distraction in class and cheating in class by using mobile phone. Solutions of these issues are found from regulations by the education institution authority that address the ownership of computing equipment and access to network connections, tools to support curriculum and appropriate behaviour in educational institutes and privacy and security of data.
2. Initiating discussions among the parents of the students about use of mobile phone for learning, ownership levels, device capability and the ways mobile phone is being used in colleges and universities can increase use of mobile phone in education.
3. Informing parents about the learning purposes of mobile phone and involving them in establishing appropriate ownership and ethical values can enhance use of mobile phone in education.
4. Changes should be adopted gradually as attitudes and behaviours aligned with purposeful learning, until mobile phone use is as natural as using any other technology in educational institutions.

Now, there are put forth a few suggestions in this regard to use satellite/ dish TV in education among the students.

1. The awareness level of satellite/ dish TV is very low in all regions. So the companies need to increase the awareness level in all regions of India.
2. Attractive gifts for customers or students should be made during seasonal period and these offers should be properly advertised. Both advertisements and offers are capable of catching the attraction of customers.
3. The companies should increase the number of dealers of and television channels in satellite/ dish TV. Television channels in vernacular languages and English need to be increased in dish TV.
4. Reduction in cost of investment will bring new customers. The competition among the service providers of television channels is growing in the consumer market and hence, proper strategies should be adopted to be competitive in the market.
5. Present cable TV consumers do not have idea about DTH service. They should be educated and convinced about DTH service.

On the whole, ICTs have become important tools for learning among the minority students, particularly the Muslim students. The students use these tools for their learning activities. Internet, mobile phone and the satellite television are the major ICTs used in the teaching and learning activities of both the rural and the urban students studying in the higher educational institutions in Silchar town. In order to prepare students more effectively to
participate in ICT-driven education, greater commitments and willingness to share and adopt innovative solutions are needed from all aspects of society such as governments, private sector, communities, donors, parents and students. Higher educational institutions should be transformed into active learning environments open to their communities. Telecommunications and power infrastructure policies should focus on these institutions as starting points for social change.