Chapter 1
THEORETICAL FRAMEWORK

This chapter introduces the research study and therefore discusses the scope, problem, objectives and methodology of the study. It also reviews the literature on ICTs in India and contains a detailed description of the method of data collection, sources and types of data, universe and units of the study and sampling of units and tools for data collection. Besides, the plan of work of the research is also given in the last portion of the chapter.

THE RESEARCH PROBLEM

Education is one of the important social institutions and bases of all the societies of the world. It is a specialized social activity. The family, the kin group and the society as a whole provide education to their members through the way of participation in their everyday lives. Basic literacy in Information and Communication Technology (ICT) and education are the significant way of increasing human capacity in a society. Without the knowledge and skills required to increase human capacity, the use of new communication technologies will be impossible. Therefore, the information literacy, that is, basic skills in acquiring, managing and communicating information is essential to familiarize with new technologies and their use. ICTs are playing a very important role in transforming the mode of imparting education now-a-days. While the interactive black boards are increasingly becoming common in the classrooms, popularity of online courses is helping in improving the access and quality of education. The application of ICTs in the mode of imparting education is thus improving the quality of life of the minorities in India. Minority can be defined on the basis of language, gender, ethnicity and religion. In terms of religion, Muslims, Sikhs, Buddhists, Christians and Jains are the minorities in India. The ICT revolution offers new intrinsic opportunities for learning in education (Chandra 2003: 213-216). It has facilitated live lectures or power point presentations with student interaction, web based learning, virtual laboratory, video conferencing, database access for reference material, library, recorded lectures, etc. The first phase of ICT revolution started during World War–II with the first large, automatic, general electro-mechanical calculator, Harvard Mark. In 1947, the first transistor was discovered and on its basis, faster and more powerful computers were constructed. The second phase of ICT revolution has its roots in the 1970s when the first processors on a chip and magnetic discs were constructed. In the third phase microprocessors have become embedded in the range of products like steering systems of airplanes, domestic air conditioning systems and so on. The fourth phase of ICT revolution stretches back to the late 1960s, when the United States Department of Defence drew up guidelines for a communication network among computers (APRANET). And finally, the fifth phase of revolution was linking without lines the new possibilities opened by mobile phones. However, the use of ICTs in education is effective in three aspects; namely, ICT-mediated instructions, ICT-enabled education and cost-effectiveness of ICT (Chandra 2003:195-216). In the ICT-mediated instruction, instruction is delivered via a technological channel, such as computer or television. The second way is to assess the merit of ICTs’ use in education. The third issue assesses that information is of
crucial importance to developing countries like India with fewer resources to invest. The role of ICTs in educational development depends on factors like infrastructure, teacher training and education and technical support assigned to technical staff. Besides, education is facing a significant change in preparing students for the future knowledge-based society because most teachers are not prepared to use ICTs and the majority of the educational institutions are not equipped to integrate the new ICTs. There has been enormous rise in the uses of both the old and new communication technologies in Silchar town for the years. Much of the uses of ICTs are perceived among the students of the town. Specially it may be used as a tool in teaching and learning activities to achieve equality of minority groups such as the Muslim in India as well as in Silchar town, a big group yet educationally backward, with the majority or forward groups. The use patterns of ICTs in education of minorities such as the section of Muslim students are variable in the context of place, culture and economy. At the same time, it is different in a peripheral region like North-East India. Therefore, the present study addressed the question: What ICT use patterns of education are perceived among the Muslim students studying in the higher educational institutions in Silchar town of Assam?

REVIEW OF THE LITERATURE

Studies on the use patterns of ICTs have covered access to, uses of, attitude towards and impact of ICTs starting from general aspect to educational aspect. The review of the literature on the use patterns of ICTs is discussed into the following four sections:

I. Studies on the Access to ICTs

Internet came into existence in 1989. The powerful access provided by the Internet has sped up the pace of various uses in different fields. Studies found that the majority of the students had access to Internet; male and some female students are of the opinion that cyber cafes are the place of Internet access who spent 3-5 hours per week for using the Internet for e-mail and net surfing for their study. Female students say that they had access to a computer off campus to a larger degree than males. Different projects aimed to expand the universal access to include content development in the regional language for the promotion of teaching science and technology to create regional language websites on secondary school-level Mathematics, Physics, Chemistry, Biology, Engineering, the Environment and Computer Science. These projects are boasts of approximately a large number of schools in its network with their own web pages. Besides, there are also the positive and negative factors affecting the adoption and development of electronic theses and dissertation (ETD) programs. The reviewed literature shows the several interrelated factors have been found to encourage the adoption and development of ETD programs in university libraries such as the appreciation of the benefits of ETD programs, awareness of these programs, and effective promotional and advocacy work that lead to cultural changes related to views on ETD programs. On the other hand, some factors have been found to discourage the adoption of ETD programs which include technological factors, legal issues and other administrative issues. ICTs are at the heart of process of education. They have impact on education which can be understood from the following studies. Pandey (2003) in his five-volume work on ICT and education deals with different aspects. He makes an analysis of networks which are the foundations for information society, ICT in childhood education, ICT and governance, framework for ICTs
and teacher education and management and competition in the information age. He emphasizes in the first volume that cable network, mobile telephones, internet information highways can be defined as a high speed global network, capable of routing to subscribers at high speed a series of new interactive services such as distance learning. The second volume explains how ICT can contribute to children’s learning, how it can be integrated into a play-based curriculum and how it relates to key areas of learning such as collaboration, communication, exploration and socio-dramatic play. The fourth volume explores the radical implications of ICT for conventional teaching and learning processes. A study presents the historical development of telecommunications starting from Lanlata I Satellite Earth Station which was Nigeria’s first international satellite telecommunications gateway to the outside world. It emphasises that for the survival and relevance of higher education institutions in Nigeria, ICT should be declared an institutional priority with adequate funding and support. These studies were conducted in Thailand in 1995, Nigeria and Arab Gulf States (Rajput and Ansari 2008: 62-66; Gay and Blades 2005; NECTEC 2002; Salmi 2008: 228-236; Ogunsola and Aboyade 2005: 7-14).

II. Studies on Uses of ICTs

These studies have mainly focused on uses and the purpose of using the Internet. The picture regarding the Internet infrastructure and its usage is not quite satisfactory due to the lack of proper ICT infrastructure, poor perceptions of ICT’s potential among the academic staff and lack of motivation on part of teachers which need to be given priority to realize the true potential demand for educational services of ICTs. Besides, the level of digital literacy is found more among the youth. Further, there exist many differences pertaining to males of their counterparts in matters of Internet searching and usage. Female college students get Internet access less often; spend less time online; and do not surf for different purposes as often as men. The Internet has been used in the open and distance education (ODL) which was originated from the need to extend learning opportunities at various levels to people who could not access traditional institutions for reasons borne out of economic, familial, spatial, temporal or geographical restrictions. It is creating a cost-effective virtual education system without diminishing quality experimented with various technologies like satellite broadcasting, videoconferencing, video-on-demand and intranets. The use of Open Distance and e-Learning (ODeL) methodologies in educational institutions and the use of modern ICT increase the access to educational resources. A study focused on the developments taking place in the Library & Informatics Departments of a major research and development (R&D) institutes in India; namely, the Regional Research Laboratory of Trivandrum (RRLT). RRLT is a national laboratory under the Council of Scientific and Industrial Research (CSIR) of India located in Kerala. ICT-enabled systems and resource creation are used for products and services. The project “IT@School” and Free Software in education were initiated to remodel the conventional teaching methodologies in class-rooms through the use of Information Technology (IT). The project aims at imparting computer education to high school students. The highlight of the project is that ICT is primarily used as a tool rather than content in teaching and IT is being taught in high schools as part of the project. These studies were conducted in Africa, Thailand, Ghana, G.B. Pant University of Agriculture and Technology.
Mobile telephony along with other telecommunications has enormous potential for increasing the educational development through the m-Learning, i.e., learning facilitated through the convergence of mobile technology and wireless technologies. The studies on the uses of mobile phone in education show the pattern of ownership and the use of mobile phones among undergraduate students. It was found that majority of students owned a mobile and kept it for their genuine need to be in constant contact with their parents/family members. Sending SMS (Short Messaging Service)/MMS (Multimedia Service) are very common among them. The youth is hooked-up on the mobile which is the driving force of the emerging mobile telephone industry (Rajput and Ansari 2008: 42-49).

The educational television was started in 1960. The Satellite Instructional Television Experiment (SITE) was epoch-making and was implemented during 1975-76. Studies on uses of educational television show that knowledge was given more emphasis in all of the programmes whereas due importance was not given to understanding and application. The contents, presentation and effectiveness of the Countrywide Classroom (CWCR) educational television programmes are good, except knowledge due weightage has not been given to understanding application, skill, attitude and interest. There are challenges in the opportunity of the emerging e-learning in developing countries. In spite of the importance of e-learning to the African countries as an important tool for human development in the continent, e-learning is facing increased challenges in almost all the countries of the continent (except for Egypt and South Africa). Those challenges include ICT infrastructure, obtaining sufficient international bandwidth due to high international tariffs and lack of circuit capacity. It concludes that the large number of low-cost, two-way Ku-band VSAT satellite-based data sources that have been launched will address the high costs of connectivity in remote areas. The Indian Space Research Organization’s (ISRO) Tele Education Satellite, EDUSAT, providing networks capable of facilitating live lectures, web-based learning, interactive training, virtual laboratory and so on are able to revolutionise education delivery process in India. The projects undertaken learnt lessons in use of satellite communication to meet the need for education training and general awareness among the rural poor. These efforts include Satellite Instruction Television Experiment (SITE), Educational Satellite (EDUSAT) and others. These studies were conducted in 1995, 1992-93 and 1992-94 in Dr. Parsuram Mishra Institute of Advanced Study in Education, Sambalpur & Orissa and Africa (Mohanty and Mohanty 1998: 220-227, 1996; Sahu 1998: 57-63; Mullick 1998: 64-73; El-Sobky 2004).

III. Studies on the Attitude towards ICTs

Attitude of users towards ICT establishes a suitable environment for instruction. In establishing and developing virtual learning, understanding of social needs is essential. Using multimedia tools for instruction leads to development of cognitive skills of learners. These skills include understanding important complex elements, ability of using concepts for reasoning and ability for using conceptual knowledge for new situation. Interacting learners with their professors and other learners increase their knowledge. The students are used to instructions in the structured format using traditional norms of education by using ICTs
which motivates them to integrate the learning and teaching procedures. Many higher educational institutions are organizing and optimizing electronic learning due to its effectivity. The positive attitude to ICTs leads to motivation. The Internet has helped the majority of the students who appreciate the study material for simple language, exhaustive explanations and illustrative examples. Studies found that majority of the students were happy with the opportunity without disturbing their routine education in the conventional system. Furthermore, male students prefer more than female students to study the course that require the use of Internet showing interest in programming and playing games. The studies were conducted in Nasik and other parts of India in 2003-04 (Liaw and Huang 2000; Liaw 2002, 2004; Spiro et al. 1995; Vygotsky 1978; Bruner 1971; Govindasamy 2002; Smith 2002; Gujar and Sonone 2006: 191-194).

It is found that many students who perceived the professional programme through distance mode find it as the most useful mean for knowledge enrichment but the problems identified by the students are classified under categories; viz., problems related to recognition of degree in their own organization, by any other organization/institute/university, interpretation of grades, etc. They give useful suggestions of increasing knowledge and skills, making the programme more acceptable by employers, organizations and placement services which may be provided by the university (Mullick 1998: 64-73).

IV. Studies on the Impact of ICTs

The reviewed literature show that in terms of gender, academicians and course administrators should pay more attention to the use of Internet resources as a major component in classroom teaching. Pertaining to the impact of ICTs on their performance, on average, students who use Internet-based learning scored higher than these without Internet. The students also learn more in less time in their classes when Internet-based learning was imparted. There is also a positive impact of usage of ICT on educational system which perceives ICT as a useful and friendly tool which has a positive impact on students and education system. Education, economic change, ICTs particularly advanced telecommunication services and the growth of ‘knowledge’ businesses are inextricably linked. This interlinking is causing a transformation of education into a new type of industry servicing new international markets, having dramatic impacts on the established educational sector. These studies were conducted in Bangalore and southern Rajasthan (Gay and Blades 2005; Schumacher and Morahan Martin 2001; Shashaani 1997; Morahan Martin 1999; Kulik 1994; Dubey, Dubey and Singh 2008: 45-55; Gell and Cochrance 1996: 249-63).

Many studies indicate that the Internet knowledge of research scholars is relatively high; the male research scholars have relatively high Internet knowledge than female research scholars; the Internet knowledge of research scholars belonging to the Arts Subjects is relatively low in comparison to science subjects. The diffusion of ICTs like the Internet changed the practice of science in less developed areas. Its impact on the research careers of scientists indicates that gender remains a durable source of inequality in Internet adoption and productivity. There is also a relationship between ICT and social change. It has reduced the influence of patrilocality on the careers of female scientists. Although the patrilocal social structure remained firmly intact, Indian women scientists have taken advantage of
professional opportunities available through the Internet to circumvent its limitations. The impact of the Internet on the careers of women scientists also changes their careers in terms of travel experiences, access to ICTs; i.e., Internet and e-mail, foreign and domestic contacts and productivity in foreign and domestic journals. These studies were done in Kerala in 2005. (Rajasekar and Sini 2005: 93-95; Palackal and Shrum 2007: 200-222; Anderson 2007: 173-199; Miller 2007: 151-172).

Studies on satellite television show that the impact of education programmes on both students and teachers is very enthusiastic. All the programmes have positive effect on both the male and female students’ learning. IGNOU provides distance learning to the professional students. There exists a significant difference in knowledge, understanding and application between teachers of TV and non-TV schools which show that satellite television play a vital role in enhancing teachers’ competency. There is a positive attitude towards the ETV medium although they face the problems pertaining to adequate and proper utilization of ETV programmes. These studies were done in Delhi, Bombay, Srinagar, Jaipur, Raipur, Muzaffarnagar, Sambalpur and Hyderabad in 1986, 1987 and 1991 (Behera 1995: 69-175; Goel and Jaiswal 1992; Goel 1984; Mohanty 1989).

Briefly, the review of the literature on the use patterns of ICTs in education shows that ICTs have become a tool for both the teaching and learning process. Now-a-days, the students are found to have taken the advantage of ICTs in their learning process. The access to and uses of these technologies have a positive attitude towards them. Internet is used by a majority of the student community. Therefore, the review shows the usage of new communication technologies in education which has a major impact on the society in relation to gender, rural-urban setting, infrastructure, etc. The review of the literature indicates that (i) there is a large number of studies on the use of ICTs in different sectors of the society; (ii) they not only visualize the technological change but also the realities of practical insights in the society; (iii) most of the studies are related to emerging interdisciplinary approach to ICT & Development in which education is an important aspect and (iv) the studies on education indicate the increasing use of the new communication technologies for e-education. Thus, the use patterns of ICTs in education call for the re-examination of the existing literature to understand the development process. Researchers need to realize that the new communication technologies should be used to enhance the learning capability among the people, especially the minority communities. Hence, the newly invented technologies are concentrated both in the rural and urban areas. In the present study, the issue of the use patterns of ICTs in education has been examined in the urban context – a better environment it provides for development of any minority group or otherwise. In spite of it, there is lack of studies on the use patterns of ICTs in education of the minorities, especially the Muslims, in the Indian context. Moreover, no such empirical study is available in the context of North East India. Therefore, the present study was undertaken to examine the use patterns of ICTs in education of Muslim students in Silchar town.
THEORETICAL PERSPECTIVE

Studies on ICTs have used various perspectives to understand their applications and impacts in various aspects of life of people. These perspectives have been discussed here in order to relate the present work to a relevant theoretical perspective. These are as follows:

There are two major perspectives that relate ICT to development. Hamelink (1998) identifies two major perspectives in this area: Utopian (Optimistic) and Dystopian (Pessimistic) perspectives. According to him, those who support the utopian perspective highlight the positive development that is brought about by information technology. Those who support the dystopian perspective argue that ICT deployment will simply reinforce historical trends toward economic disparities, inequality in political power and gaps between knowledge-disfranchised. The role of technology in society has long been an important intellectual issue for social scientists. Historically, there are three meta-analytical viewpoints regarding technology (Gendron 1977). The following discussion highlights major perspectives on the relationship of ICTs with society and development in it:

1. Utopian Perspective

The utopian perspective holds that technology is an unalloyed blessing for mankind (Mesthene 1981: 99). Utopians see technology as a factor in providing shortcuts to the solution of many social problems. Weinberg (1981) refers to these shortcuts as technological fixes. In addition, technology provides solutions to problems caused by technology itself. The utopian viewpoint espouses rapid technological development and is skewed toward technological determinism. Failure by a technology to impact society is seen as the fault of the business and political communities who are unfortunately in control of contemporary society. The utopian viewpoint has been championed by such scholars as Buckminster Fuller (1981), Daniel Bell (1981) and Alvin M. Weinberg (1981).

The utopian perspective refers the present time as ICE age, media saturated age, new civilization, information revolution, knowledge society and age of infotainment. It derives its image from a techno-centric perspective that is characterized by an emphasis on the historical discontinuity. In this techno-centric perspective the imperatives of technological development determine social arrangements: technological potential drives history (Zuboff 1988). It holds that the digital revolution definitely marks the passage of world history into a post-industrial age. Those who support this perspective argue that the emerging global information society is characterized by positive features: there will be more effective health care, better education, more information and diversity of culture. New digital technologies create more choice for people in education, shopping, entertainment, news media and travel. It is based upon the notion of a technological discontinuity – Third Wave Civilisation (Toffler 1980).

Hamelink observes that in a zero sum society, new social values will evolve, new social relations will develop and widespread access to crucial resources will be possible. All the traditional borderlines and barriers will disappear in the new virtual communities. Those who support this perspective hold the view that technology has come to stay and can be used to the benefit of human society. Many oppose such views and share a common ground which is identified as dystopian.
2. **Dystopian Perspective**

Dystopians are convinced that technology is an unmitigated curse (Mesthene 1981: 99). Like the utopians, they view technology as very influential in society. However, they see technology as problem-generator rather than as problem-solver. They argue for restraint in technological development and reject the notion of technological fixes. Failure of social programs is attributed by the dystopians to technocrats who are gaining control of society. They believe that technocrats should be excluded from all policy formulation. Jacques Ellul (1981) and John McDermott (1981) are the fervent proponents of the dystopian approach.

In this perspective it is argued that ICT deployment will simply reinforce historical trends toward social-economic disparities, inequality in political power and gaps between the information-rich (knowledge elites) and the information-poor (knowledge disfranchised). This perspective also predicts continuation and changes in the present economic, political and cultural systems. A perpetuation of the capitalist mode of production, with a further refinement of managerial control over the production processes will result in massive job displacement and de-skilling. A pseudo-democracy will emerge allowing people to participate in marginal decisions only. ICTs will enable the exercise of surveillance over their citizens more effectively than before. The proliferation of ICTs in the home will individualize information consumption to a degree that makes the formation of a democratic public opinion no more than an illusion. There are tendencies of forceful cultural globalization, e.g., ‘Macdonaldization’ and aggressive ‘cultural tribalization’, fragmentation of cultural communities into fundamentalist cells with little or no understanding of different tribes. Technology creates dependency of developing nations on the developed nations. By denying access and dividing people into ‘haves’ and ‘have-nots’, such technology is widening the existing gap between the rich and the poor. Some dystopians are Herbert I. Schiller, Ian PReinecke, Kevin Robins, Neil postman and Mark Dery (Contractor, Singhal and Rogers 1993: 232).

Both perspectives have failed to recognize the fundamental impossibility of foreseeing the future social and economic implications of technological innovation. According to Hamelink (1998: 6), it is not possible to predict future social impact of any technology and social choices about the future can be made under conditions of certainty. Hamelink supports an approach focusing on social shaping of technology. This approach emphasizes the dynamic interaction between social forces that shape technological development and technological innovations that affect social relations which was originally suggested by MacKenzie and Wajcman (1985). Among the factors shaping ICTs are socio-economic, political, cultural and gender variables, geography and market forces. According to him, it is essential for those who wish to influence the course of change in ICT, in directions that might support social development to understand what forces shape the evolution of ICTs and how these forces interact.

Both utopian and dystopian perspectives emphasize the role of ICT (means) or of the developing organization in bringing about development (communicator). ICT is placed between a communicator and the audience and, thus, becomes an instrument for bringing about development of the people. In these two views, the main emphasis is on how
effectively the means (ICT) can be used to bring about the development among the people or how best the communicator, e.g., a Non-Governmental Organization (NGO) uses the means (ICT) in order to develop the communities. These perspectives have an implicit assumption that people do not have any idea to develop themselves nor possess any innovative concepts to bring about social change. Thus, development has to be brought by an external instrument or organization. ICTs can play a major role in bringing people together by establishing networks among the communities.

3. Neutral School

The Neutral School argues that technology does not have an important effect on society; technology, per se, is neither a problem-solver nor a problem-generator. In other words, technology is neither good nor bad . . . . it depends on how we use it. The neutral school of thought seeks to assess, forecast and control technology. Unlike the utopian or dystopian points of view, the neutral school is skewed toward social determinism, espousing that the impacts of a technology are shaped entirely by social, economic and political institutions. Policy, according to the neutral school, should not be oriented toward technology. The concept of a failure is irrelevant to the neutral viewpoint, since society (not technology) determines the impacts of technology on society.

Mesthene (1981) claims that the three viewpoints are by themselves unhelpful to policy-makers. Based on studies conducted by Mesthene and his colleagues during the mid-1960s in Harvard University’s Program on Science and Technology, Mesthene proposed the dual-effects hypothesis. Technology has both positive and negative effects, and it usually has the two at the same time and in virtue of each other (Mesthene 1981: 103). The role of the social analyst, therefore, is to analyze the contingencies that determine the positive and negative effects of a technology; society can then attempt social, technological and political reform in order to optimize the positive effects while minimizing the negative effects. The proponent of this approach is David Sarnoff.

4. Contingency Approach

The fourth viewpoint, the contingency approach, therefore, views the technology as problem-solver and problem-generator. It sees technology as malleable. It selectively adopts and designs technological innovations and assesses the social and technological constraints on their use. Policy is the collective responsibility of social, political and technological institutions. Examples of studies that have used the contingency approach include Ithiel de Sola Pool’s (1977) dual-effects analysis on the social impact of telephone and Robert Kling’s (1980) social analysis of computing.

5. Social Shaping of Technology Perspective

The Social Shaping of Technology (SST) perspective which first appeared in 1985, exemplified a rising trend in historical and social studies of technology. It appeared when sociologists of science and historians of technology were still discovering new areas, labour process theory and technological determinism as well as the study of domestic and military technologies were new and the social construction of technology had to make its mark. In
1985, MacKenzie and Wajcman’s theory leavened with older “classic essays” (by Karl Marx and Marc Bloch) argued forcefully against the notion of technological determinism and imaginatively for the proposition that technologies are socially shaped.

SST plays a positive role in integrating natural and social science concerns, offering a greater understanding of the relationship between scientific excellence, technological innovation and economic and social well-being and broadening the policy agenda in the promotion and management of technological change (European Science Foundation/Economic and Social Research Council 1991 and Newby 1992). SST is often taken to be synonymous with the approach, the social construction of technology or more generally with the sociological study of technology (Rose and Smith 1986; Mackay and Gillespie 1992). SST stands in contrast to post-Enlightenment traditions which did not problematize technological change, but limited the scope of enquiry to monitoring the social adjustments it saw as being required by technological progress. SST studies show that technology does not develop according to an inner technical logic but is a social product patterned by the conditions of its creation and use. Every stage in the generation and implementation of new technologies involves a set of choices between different technical options. Alongside narrowly technical considerations, a range of social factors affect – thus influencing the content of technologies and their social implications.

The social shaping of technology perspective emerged from a long-standing critique of crude forms of technological determinism (Edge 1988) which held (i) that the nature of technologies and the direction of change were unproblematic or predetermined (perhaps subject to an inner ‘technical logic or economic imperative’), (ii) that technology had necessary and determinate ‘impacts’ upon work, upon economic life and upon society as a whole: technological change thus produces social and organisational change. It was linked to opposition to ideologies of ‘technological imperative’ that were particularly prevalent in British government and industry in the late 1970s and early 1980s which suggested that particular paths of technological change were inevitable.

6. ICTs and Development Perspective

Any development perspective begins from the people, their understanding of development, communication process and their context. In this sense, people are already engaged in a communication process (by using different means that are available to them) in a socio-cultural and political process (in order to develop themselves) and thus in search for meanings of life and faith that would enable them to bring about social change and development among them. It is essential for the communicators to find ways to participate in such an ongoing process of the people and thus become participants or catalysts in the people’s process of development using the available modern technology. From this understanding communication is defined as a process in which the communicator participates, shares and interacts with the audience (people).

James Carey’s ritual view of communication defines it as an ongoing process in which people participate and interact in sharing, negotiating and constructing meanings
Unless audiences share such means of communication (ICT), the communicator cannot communicate with the audience. Unless computers become their medium, people cannot use it for their development. It is necessary to enable people to use ICT as a platform where they can express their expectations and meanings. There is a need to first recognize such meanings and use their means of communication to disseminate information among them. Using ICT such meanings can be disseminated not only among themselves but also to other communities that are struggling with similar issues and problems. When people are seen as participants in the developmental process, people can participate along with them in their search for development through the new technology.

It is not that technology alone enables interaction with the communities but a changed perception could help to bring about a sustainable and participatory model of development. In this regard, the technology of convergence helps communicators to change their perceptions and practices. Therefore, there is the need to identify ways how such technology can be used to establish networks for furthering organizational participation and enriching people’s process of development.

7. **Convergence Perspective**

The technology advancement has extended people’s ability to communicate and interact with each other. ICT can bring together different types of analogical communication forms into a single digital system. Through single system multiple operations become possible. Such digital systems are more accurate than analogue systems when services of media such as broadcasting, voice telephony, data and text exchange and online computer services operated on different networks and platforms converge into a digital form. Convergence means to bring technologically all those operations that were done using different instruments, mechanisms and means into a single digital computerized system. Hamelink (1997) observes that as a result digital technologies are instrumental in the convergence of electronics, telecommunication and data processing technologies. They bring the formerly separated and different worlds of broadcasters, cable manufacturers, publishers and Internet users together. The personal computer, the television set and the telephone begin to be integrated into the real multimedia stations. Convergence is a technological phenomenon through which telephone, radio, television, VCRs, cameras and so on are becoming an integral function of the multimedia personal computers. Recent examples of convergence include webcasting of radio and TV programming, using the Internet for the voice telephony, e-mail and chat mails through digital TV decoders and Internet services provided to TV sets via Web TV and cable networks (Raja 2004: 293-302).

The present study applies the social shaping technology perspective because it takes into account the impacts of both technology and society and context of the present study is also a human group which is influenced by technology as well as shaping it as their needs and situation. It mainly focuses on the new ICTs; namely, Internet, mobile phone and satellite/dish television which mould and shape the society by overcoming social barriers and bridge gaps even without accommodation on the part of norms and values of a community. If these technologies are made available to students, irrespective of their gender and rural-urban
residence at affordable cost, the technologies will be able to reduce the existing inequalities of gender, rural-urban residence and class.

DEFINITIONS OF THE KEY TERMS

1. **ICTs**

ICTs are an expanding assembly of technologies that can be used to collect, stores and share information between people using multiple devices and multiple media. In the study the term ICTs refers to Internet, mobile phone and satellite/dish television which are also known as new ICTs.

2. **Education**

Education is the process of the transmission of knowledge from one generation to another by formal and informal methods. Though formal education includes primary, secondary and higher levels, the study is concerned with the higher/tertiary education only in view of the growing importance of ICTs in higher educational institutions.

3. **Muslim Students**

Muslims constitute a major minority community in India and Silchar town. The term ‘Muslim students’ in the study refers to the students of Muslim community who are studying in the institutions of higher education such as colleges, universities, institutes in Silchar town. These students are from both rural and urban residences and genders.

4. **Rural-Urban**

Rural and urban refer to the residential settings of students in the rural and the urban areas. For the purpose of the study the following definitions have been used:

The Census of India 2011 define the urban area as

1. All places with a municipality, corporation, cantonment board or notified town area committee, etc. (known as Statutory Town)
2. All other places which satisfied the following criteria (known as Census Town):
   (i) A minimum population of 5,000;
   (ii) At least 75% of the male main working population engaged in non-agricultural pursuits; and
   (iii) A density of population of at least 400 persons per sq. km.
On the contrary, all areas which are not categorized as urban areas are considered as rural area.

5. **Attitude**

The study has used the definition of attitude given by L L Thurston, that is, ‘….the degree of positive or negative affect associated with some psychological object’ (Thurston 1927).

OBJECTIVES OF THE RESEARCH

The specific objectives of the study were as follows:

1. To know the socio-economic background of Muslim students studying in Silchar town,
2. To find out the access to ICTs in education of Muslim students in Silchar town,
To find out uses of ICTs in education of Muslim students in Silchar town,

4. To know the attitude of Muslim students towards ICTs in education in Silchar town and

5. To understand the social impact of ICTs in education of Muslim students in Silchar town.

RESEARCH QUESTIONS

The main query of the research was addressed by the following specific questions:

1. What is the pattern of access to ICTs in education of Muslim students in Silchar town?
2. What is the pattern of uses of ICTs in education of Muslim students in Silchar town?
3. What is the attitude of Muslim students towards ICTs in education in Silchar town?
4. What are the impacts of ICTs in education of Muslim students in Silchar town?

DATA AND METHODOLOGY

The descriptive research design was used to understand the use patterns of ICTs; viz., Internet, mobile phone and satellite/ dish television in education of Muslim students studying in the higher educational institutions in Silchar town. Data and methodology used in the research are as follows:

(i) Types and Sources of Data

The study uses empirical data from Muslim students on access to, uses of, attitude towards and impact of ICTs in Silchar town. They pertain to Internet, mobile phone and satellite/ dish television. However, documentary data have also been collected from offices of statistics, municipality, telecommunications, etc.

(ii) Universe and Units of the Study

The higher education institutions in Silchar town constitute the universe of the study while the Muslim students studying in these institutions constitute the units for collection and analysis of the data. Muslims are one of the minority communities in the town, considering the religion and the size of population. The total population of the Muslims is 56,972 persons (36.3%) out of the total population of the town (Census 2011). However, students in higher education institutions of the town are coming from both the rural and urban areas. The higher education institutions of Silchar town are: Guru Charan College, Cachar College, Radhamadhab College, Women’s College, Teachers Training College, Silchar College of Education, Assam University and National Institute of Technology.

(iii) Selection of Units

At first, the lists of all the students studying in various classes were collected from all the six degree colleges and the two national institutions; namely, Assam University and National Institute of Technology. Total number of students in the institutions was 9461, out of which, 1413 were Muslim. Then, the lists of Muslim students of various classes were prepared and they were divided by gender into males and females as well as by residence into rural and urban students under each year (class) of programme of study: 699 males and 716
females, and 848 rural and 565 urban. Out of 1413 Muslim students a sample of 35% students was drawn from each of four strata (rural, urban, male, female) in each year of the programme of study, which came to be 495 students: rural - 297 (152 males and 145 females) and urban - 198 (93 males and 105 females). Considering a large size of the universe and ensuring adequate representation of all strata, a relatively large sample of 35% (over one third of their population) was preferred. The following table shows the sample of the Muslim students drawn from eight higher education institutions of Silchar:

Table 1.1
Sample of the Muslim Students Distributed into Higher Education Institutions in Silchar
Town by Their Gender and Residence
(Percentage in Parentheses)

<table>
<thead>
<tr>
<th>College/University/Institute Where the Students Pursued Studies</th>
<th>Male (%)</th>
<th>Female (%)</th>
<th>Grand Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rural</td>
<td>Rural</td>
<td>Urban</td>
</tr>
<tr>
<td>Assam University</td>
<td>68 (44.74)</td>
<td>36 (38.71)</td>
<td>104 (42.45)</td>
</tr>
<tr>
<td>Guru Charan College</td>
<td>30 (19.73)</td>
<td>15 (16.13)</td>
<td>45 (18.37)</td>
</tr>
<tr>
<td>Cachar College</td>
<td>43 (28.29)</td>
<td>21 (22.58)</td>
<td>64 (26.12)</td>
</tr>
<tr>
<td>Radhamadhab College</td>
<td>1 (0.66)</td>
<td>4 (4.3)</td>
<td>5 (2.04)</td>
</tr>
<tr>
<td>Women’s College</td>
<td>-- -- --</td>
<td>-- -- --</td>
<td>--</td>
</tr>
<tr>
<td>Teachers Training College</td>
<td>4 (2.63)</td>
<td>1 (1.08)</td>
<td>5 (2.04)</td>
</tr>
<tr>
<td>Silchar College of Education</td>
<td>-- -- --</td>
<td>-- -- --</td>
<td>--</td>
</tr>
<tr>
<td>National Institute of Technology</td>
<td>6 (3.95)</td>
<td>16 (17.2)</td>
<td>22 (8.98)</td>
</tr>
<tr>
<td>Total (%)</td>
<td>152 (100)</td>
<td>93 (100)</td>
<td>245 (100)</td>
</tr>
</tbody>
</table>

Source: Field Survey Conducted during 14 February 2011 – 29 February 2012

Of the Muslim students, one third (33.13%) are from Assam University, near about one fourth (24.44%) from Cachar College, near about one fifth (18.38%) from Guru Charan College, over one tenth (13.54%) from Women’s College, while insignificant number, each, from National Institute of Technology, Radhamadhab College, Teachers Training College and Silchar College of Education. Thus, majority of the students are from Assam University, a central university, and pursue higher education at both undergraduate and post-graduate levels because there are different departments in the university with semester system and a large number of the students study different subjects according to their interests. Thus, most of them are studying in the university and colleges.

Of the rural Muslim students, 34.68% are from Assam University, subsequently followed by Cachar College (25.25%), Guru Charan College (19.19%) and Women’s College (14.81%) while insignificant numbers are enrolled in National Institute of Technology, Radhamadhab College, Teachers Training College and Silchar College of Education. Over two fifths of the male rural students (44.74%) are from Assam University, subsequently followed by Cachar College (28.29%), near about one fifth (19.73%) from Guru Charan
College and the least from National Institute of Technology, Teachers Training College and Radhamadhab College. On the other hand, near about one third of the female rural students (30.34%) are from Women’s College, subsequently followed by Assam University (24.14%), near about one fourth (22.07%) from Cachar College, near about one fifth (18.62%) from Guru Charan College and the least from Radhamadhab College, Teachers Training College, National Institute of Technology and Silchar College of Education.

Of the urban Muslim students, near about one third (30.81%) are studying in Assam University, subsequently followed by Cachar College (23.23%), Guru Charan College (17.17%), over one tenth (11.62%) from Women’s College and the least in National Institute of Technology, Radhamadhab College and Teachers Training College. Of them, near about two fifth of the male students (38.71%) are from Assam University, subsequently followed by Cachar College (22.58%), National Institute of Technology (17.2%), over one tenth (16.13%) from Guru Charan College and a small segment belong to Radhamadhab College and Teachers Training College. However, near about one fourth, each, of the female students (23.81%) are from Assam University and Cachar College, subsequently followed by Women’s College (21.9%), Guru Charan College (18.1%) while the least are from Radhamadhab College, National Institute of Technology and Teachers Training College.

(iv) Tools for Data Collection

Responses from the sampled students were collected during 14 February 2011 – 29 February 2012, by administering a structured interview schedule and data were analyzed by using bi-variate and multi-variate tables using percentages. The schedule consists of both open-end and closed questions.