

# Information and Communication Technologies (ICT) Empowering Value Addition in the Field of Distance Education

**Dip Narayain Singh**

Assistant Registrar

Sikkim Manipal University, Directorate of Distance Education

5th, Mile Tadong, Gangtok, Sikkim - 737102, India

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## ***Abstract***

*The modern developments in Information and Communication Technology (ICT) a window of communication with the outside world, both the literature and practice of Distance Education has been remarkably grown up. The use of ICT based modes of communication in Distance Education, however, appears to be expanding at a faster and smarter than research in the field. The significant growth in the use of ICT-based modes in Distance Education has also raised concerns about the need for research to provide a concrete framework for evaluation of the effectiveness of programmes implementing these technologies and to provide guidance on future developments. The Sikkim Manipal University – DE have been a national figure in Distance Education make use of technology in a bigger way. The major tools of technology used by the University is ExuNxt for providing 24x7 support to its learners which gives flexibility and privilege to access from anywhere anytime. The present study attempts to evaluate the impact of Technology Enabled Learning taking into account of the integrated medium.*

**Key Words:** *ICT Enabled Technology, Distance Education, Online Education, E-learning, Multi Model Approach, Teaching Learning Methods, Flexible Learning, Teaching Technology, Higher Education, Modern Education System and SMUDE EduNxt.*

## **Introduction**

Education is one of the most significant factor to economic and human development that leads to changes in the comprehensive transformation in the skills, capabilities and attitudes of the people. This requires a shift in the delivery and pedagogy used in the current education system. Today, education system is going through a transformation phase in which information occupies a vital role. The future education will be Information and Communication Technology (ICT) enabled learning. The lives of people of the country have already been touched and transformed in a significant way through the various initiatives of the Distance Education Universities, in future as well, with the support of ICT driven educational technologies, thus the dual mode University will play the most powerful and effective role in ensuring access and equity for all in matters of higher education through Distance Education.

So, people wants education at his doorstep,

as the motto of Distance Education is also education at your door step and education for all, which is only possible best through ICT enabled educational technologies, which shall be beneficial for both academic institutions and the learners. The institution has chances to expand itself to any place; the learner also takes the advantage of learning at anytime, anywhere depending upon their own pace and convenience. The use of ICT has proved as good as the conventional teaching as it is interesting, motivating, facilitates instant feedback. Discussion method can be employed and personal attention can be given very well through the technology that overcomes few gaps of the Distance Education. As India has already entered into new millennium, it is necessary to sustain such type of efforts by continuously tuning into the fast changing requirement and updating the technology that goes in to the making on these sophisticated system. The challenges continue to grow, but that is what attract and sustains the interests of personnel working

in the distance education. The use of ICT is also made available to the economically and socially backward students. However, if we are aware of the limitations, we can always avoid falling prey to the overuse of this technology. What matters after all is creating conducive learning environment for the students and we firmly believe that there is no perfect substitution for a good teacher, but there are many substitutions for teaching techniques. 'Information' is the most vital resource for any kind of activity. Today, the education system is transforming through a phase in which information occupies a vital role. It has become one of the basic elements to determine the quality of life, the other three features are "Men, Material and Money'. Hence, the purpose of this study is to encourage effective integration of ICT in Distance Education for imparting easy accessible, affordable and quality higher education leading to the economic upliftment of educational system.

### **Distance Education**

Distance Education is a unique concept in the modern education system. The ongoing education system or conventional education system in the present context has faced some critical questions. Hence, people require an alternative line of education. This has led to the emergence of Distance Education system. From the present perspective, Distance Education is the easiest mode of learning irrespective of age, educational background and geographical boundaries. The importance of Higher Education cannot be overstated enough. Government has made 'Basic Education' free and compulsory for all. The establishment of Distance Learning is for universal higher education. Constant efforts are being made to improve the conditions of the institutions of higher education by providing basic infrastructural facilities. The problem of providing all the required facilities for Open and Distance Learning is a significant part of the larger problem of development of higher education. As the problem concerns the needy, the disadvantaged and the deprived section of the society, there is a distinct need for linking educational development with the learner's socio-economic status. Distance Education acquires a larger purpose than

merely providing higher education. A properly organized system of education can also become the social and cultural life of the people and an ODL where all developmental agencies could come together for an integrated process right at the grass root level would make voluminous progress.

The need of the hour is to pool such innovative experience and disseminate the same effectively. The exchange of experience within and outside the country would surely help to promote and transfer knowledge to the masses and benefit the society in the long run. Distance Education can be improved upon by integrating various other methods which are successfully followed in other countries such as:-

- Radio/FM/Audio - Video CD/Telephone/Teleconferencing/Voice Conferencing/Video based technologies/Computer, Internet & Satellite/E-mail communication/Virtual campus/Television/recorded video lecture/Live satellite-based teleconferencing lectures supported through VSAT/Practical laboratories/Online library/Online interactive chat and Mobile be used as ancient tools for this purpose.

### **Significance of Educational Technology**

The choice of technology is essential for effective delivery and interaction in distance education. Technology by itself is neither good nor bad; success depends on the way it is used, and the environment in which it is used. As such, it is necessary to assess the strengths and weaknesses of technology and understand the "appropriate circumstances for technology applications using technology for effective teaching and learning". Early evaluative studies in educational technology mostly involved comparative studies, where ICT-based and face-to-face learning and teaching were compared in terms of student performance. More recent studies have focused on the nature of ICT-based education, which considered attributes such as Telepresence, flexibility, interaction, active learning and collaboration. The focus of this study is on the more recent studies dealing with the nature of ICT-based education and / or its learning environment. While studies in

educational technology have been expanding, the literature suggests that the use of ICT in distance education has outgrown theoretical research and development in the field. The use of ICT-based modes in education began in early 1980s, but attempts to provide appropriate theoretical frameworks in the field only started in late 1980s. The use of ICT in education initially increased rapidly; in some cases it outpaced the research in the field of Distance Education. As such, in some cases ICT-based educational projects have been developed and delivered without theory-based design. Such practices have led to both project successes and failures. Thus, the increasing use of ICT in education and particularly in Distance Education has highlighted the lack of a theoretical framework and research in the field to guide distance education into new era of ICT. This indicates that there is a lack of knowledge about the effectiveness of these technologies in distance education.

#### **About Sikkim Manipal University - Distance Education (SMUDE)**

Sikkim Manipal University (SMU) is the result of a unique partnership between the Government of Sikkim and Manipal Education. Established in 1995, it is the first government-private initiative in the region. SMU is a part of the Manipal Education Group, which is renowned for quality education. The University Mission is “Global Leadership in Human Development and Excellence in Education. SMU-DE delivers quality education through more than 6800 committed and qualified mentors. It attracts the best students in India who are looking for distance education. SMU-DE is ISO 9001: 2008 certified and its processes are trusted by over 4, 00,000 students across the globe. EduNxt is the next generation learning system that fully takes advantage of modern teaching learning techniques to create a virtual classroom where students comes together to learn from distinguished faculty and each other in form of peer group.

#### **Multi Model Approach to Learning of SMUDE**

SMUDE has a combination of first, second, third and fourth generations for distance education. Use of multi-delivery modes

and numerous supplementary modes to assist teaching and learning at SMU - DE is now termed as multi-model approach. The findings clearly reveal that the use of ICT-based modes of communication, which is a part of multi-model approach, at SMUDE effectively, serves its mission of reaching out to the regional community. The use of video broadcast to deliver traditional on-campus courses to regional students is an important step towards decentralization and equal access to higher education in India. In addition to the flexibility in terms of location provided by the use of video broadcast, the use of other supplementary modes of communication also enriches the flexible learning environment at SMUDE. The use of various modes of communication provides SMUDE with the potential to overcome one of its major challenges, that of geographic distance, diverse languages and cultural difference. A flexible learning environment designed on the basis of principles of learning theory, learning styles and adult learning poses huge potential for culturally appropriate pedagogical design. It provides the foundation for a design more receptive to cultural and individual differences in learners. The shift from a dual to a multi-model university and from the use of the first and second to the first, second, third and fourth generations of distance education modes of communication in itself reflect significant changes at SMUDE.

#### **ICT and EduNxt**

The use of ICT in Distance Education has grown rapidly in the last decade. Traditional print based modes of communication are either, complemented, supplemented or replaced by ICT based modes of communication in distance education. Distance educators are increasingly adopting both synchronous and asynchronous ICT-based modes of communication to enhance distance learning environment. With the use of ICT-based modes, distance learners are now able to participate in class in real time; interact with their instructor and peers; and access resources at their own convenient time, place and pace, with the use of ICT-based modes of communication at the University, it can be viewed as providing ‘anywhere’, ‘anytime’ and ‘anyone’ education, which is a

major achievement for SMU-DE.

The EduNxt platform is an easy to use delivery system. It enables a collaborative and interactive environment for learning and includes small group mentoring, virtual classrooms, simulation, self-study content, recorded presentations and shared browsing. EduNxt functions on the principle of 3As + 4Cs. The 3As of Affordability, Accessibility and Appropriateness are the guideline to scale up EduNxt across distributed learning. The 4Cs of Content, Collaboration, Communication and Computing are the basis of developing EduNxt into a means of disseminating education among the not-so-privileged or the infrastructure challenged. It enables a collaborative and interactive environment for learning and includes small group mentoring, virtual classrooms, simulation, self-study content, recorded presentations and shared browsing. EduNxt is a new technology – infused learning system that has transformed distributed learning across India.

The EduNxt delivery system is a boon to distance learners of SMUDE, where a large

number of students do not have access to a conventional campus programme for reasons of infrastructure, finances or availability or quality faculty. EduNxt enables Distance Education students to have access to varied learning resources, assistance from designated faculty mentors and collaboration on study and projects with fellow students. EduNxt makes it very easy for a student to self-learn, since self-motivation has always been a Distance Learning issue. Learners of the same course can, for example, chat with each other and faculty members in real time to clarify subject matter or read faculty blogs and comment on them. The concept of mentoring means faculty members will be available as guides to mentor students in case of doubt. EduNxt combines academic rigorous and a personalized learning environment along with SMU-DE’s hybrid learning delivery system with its flexibility, convenience and accessibility to offer a “first of its kind” learning environment in India. Unique features of EduNxt are mentioned in Fig. 1.



**Figure. 1: Unique Features of EduNxt**

### **Interactive Web Chat Session**

The data acquired through the survey questionnaire and personal interview suggests that the use of EduNxt discussion boards enhances interaction. While distance students across all courses use EduNxt discussion boards, the extent of their use differ, based on the availability of computers with internet and the course design. The Management course, for example, has marks allocated for online discussion and participation, which is reflected in a high percentage of students participating in discussions.

### **Peer to Peer Chat**

Breakthroughs in technology each year has revolutionized the way the world has been moving forward. But when it came to higher education the same has been found to be lacking. With millions still being illiterate not just in India but across the world, a path breaking initiative was needed to incorporate technology and education in a way that would make education more accessible, breaking down the barriers of time and space. Supporting a high level of interactivity, EduNxt is an Internet based

learning platform. Through EduNxt, one can access virtual classrooms, chat with faculty, counselling, placements, peer to peer interaction, personalized guidance from faculty and industry experts, model question papers and log in to over 1 million books and journals. EduNxt has not just made the quality of Distance Education better but has also led to a higher acceptance amongst employers.

### **Mentors Chat**

EduNxt enables a collaborative and interactive environment for learning and includes small group mentoring, creates virtual classroom environment, simulation and other interactive content, self-study content, recorded presentations and shared browsing. Industry mentor chats - get a chance to interact with the best business minds and experts in various areas. The industry mentor chat is held every week where industry experts come and mentor our students. Academic mentor chats – a student can chat with the university faculty to clear doubts on various topics

### **Conclusion**

The increased use of ICT to deliver and enhance aspects of educational provision is now an emerging practice for all learner belonging to rural and geographically remote and mainly monolingual areas, thus having advantages in overcoming geographical barriers. Even though it is clear that ICT applications in higher education will continue to grow due to many reasons, there will be many issues/concerns which will need to be studied such as the specific role of ICT in increasing access, equity, the affordability factor for the learner, the viability factor for the provider, its role in enhancing and enriching the learning process through improving the content, and above all the cultural acceptability of the different media by the Indian learners. There is a need to strike a balance between the slow changing human aspects along with the fast changing technology aspects and in order to make them compatible for acceptance. ICTs are most likely to be cost-effective when used

to reach very large numbers of students (a common problem in developing countries); when used for research; and when used by administrators. In most other situations, they are unlikely to save money. While it is clear from the past that in India, whenever the private enterprise got an opportunity, it adopted whatever technology was in vogue globally at the time-be it satellite, television or information technology and gradually developed it to an extent that its reach extended within the country as well as globally. The Distance Education system providers also need not unduly worry about the conventional system adopting ICT based techniques, as it is more to do with the mindset of compartmentalization that we have become accustomed to in our academia. If the conventional system adopts distance techniques of delivery, the ODL system has begun to adopt face-to face techniques. When technology is integrated into formal education and used as the “distributed education” for both on-and off-campus students, the distinction between the two types of learning may get blurred.

Clearly, education system is now entering in a unique and exciting era of online teaching and learning. And perhaps the perfect e-storm is becoming less cloudy and ominous. It is suggested that the integration of ICT-based a synchronous modes of communication and the principles of constructivist learning theory will provide a learning environment which promotes deep effective learning based on the students understanding of the content of the course.

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