

Role of Technology in The Journey of Distance Education



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ABSTRACT

This article traces the developments in distance education right from correspondence mode to the present day of flexible learning in the World in general and in the India in particular and how the technology has always been pivotal to its attainment as an alternative and but cost effective, equitable as well as accessible mode of the higher learning to one and all. An analysis of some issues and concerns related to its functioning and the success of distance education in the Indian contexts is also done.

A small beginning but an effective growth :

Distance Education making a beginning in the form of Correspondence Education in UK since 1840 by Issac Pitman (Moore and Greg 2005) has traveled a long journey. Since then, there are more than 1133 institutions offering 3900 courses through distance education in more than 103 countries (Srivastava & Reddy, 1998). And in this journey, the technology has been one of the internal components in its path, which not only made it popular for higher education but also at the school, vocational and technical level. Another reason of its mass acceptability among aspirants of education seekers, is its mode of delivery, which although started with simple form of inflexible mode to the web based learning for any time, any place and for anyone. So, an evolution of an inflexible learning to the flexible learning of 24x7 pattern happened in its course of journey.

In India, the development of distance education is quite late in comparison of west. The first ever correspondence course in India was introduced in 1962 by the Delhi University. Following a large scale success of this graduate programme, its mass acceptability made almost all the regular state universities numbering 45 to open their own parallel distance education units (Gnanam, 2006), thus making it one of the largest dual mode systems in the world (Reddy and Srivastava, 1998). In regard to the development of single mode Open University system, India is one of very first few countries to adopt this philosophy of learning after looking the success story of United Kingdom Open University (UKOU) in 1969. The beginning of Open education system happened with school level education and on its successful experimentation, in 1982, the first ever Andhra Pradesh Open University ((APOU) was established which is now renamed as Dr. B.R. Ambedkar Open University (BRAOU). It was first ever-autonomous single mode Open University and since

1985 the first even National Open University in the form of Indira Gandhi National Open University (IGNOU) came into existence. Subsequently State Governments of Bihar, Maharashtra, Rajasthan, Gujrat, Karnataka, Madhya Pradesh and West Bengal set up their own state Open Universities and thereby making India the only country which has largest number of open Universities (Reddy and Srivastava, 1998). Now, nearly 23% of the total number of students in Higher Education are receiving education through open and distance learning mode, out of which IGNOU has a proud share of 13%, whereas there is an increase of 24% of enrolment in the Open Universities (Dikshit, 2005). Today, it is not only the Sate and National Universities both single open mode and dual mode which are contributing in the distance education but many private institutions have also jumped in the fray like of 'NIIT' ICFAI and PTU. It is not only the general degree seekers whose dreams are being fulfilled by the distance mode but also for the technical and medical courses aspirants.

In the world, since last thirty years distance education has extensively used technology as these institutions are deliberately designed and structured to exploit the cost and benefits of technology (Bates, 2005). It has not only helped to know the usefulness of technology in the education whereby the technology is not now in use for distance learning but even for all sorts of education including conventional class room situations. The use of technology in methodology of distance education has opened many new vista of learning like open and flexible learning. How these terms are similar and different needs not only clarification but understanding regarding content and context of the distance mode as the language and the terms used to describe distance learning are often overlapped and so are confused because of geographical differences.

The term open and distance learning and its definition are relatively new and became quite prevalent in last of twenty years or so. Among the more other commonly used terms related to open and distance learning are the following : correspondence education, home study, continuing education, self instruction, distance teaching, learner centred education, open learning, flexible learning, distributed learning and technology based learning. In our Indian context, out of the stated terms, the correspondence education, distance teaching, flexible learning, self instructed open learning and flexible learning are quite in fashion and as such, I shall be mainly looking into terms of correspondence education, distance education including learning and teaching ,open learning as well as flexible learning.

Correspondence Education

It is one of the successful century old method of distance education based on self study materials based on print based communication through postal services in early days which later on were replaced and supported in many institutions with audio cassettes, video-cassettes, radio broadcast and television.

Distance Education

Distance education, as per Wikipedia, it is a field of education that focuses on the pedagogy/ androgogy technology and instructional systems design that are effectively incorporated in delivering education to students who are not physically "on site" to receive the education. Instead, teachers and students may communicate asynchronously (at times of their own choosing) by exchanging printed or electronic media, or through technology that allows them to communicate in real time (synchronously).

As per Bates (2005), " distance education is a methodology of imparting education to the students on a place, at a time and without having any interaction with the teacher".

So, distance education as per these contexts, is a programme of education meant to transmit the content among the community in absence of teachers through some other physical media (may be print, electronic or in the form of CD-Rom).

Open Education

Bates (2005) defined open learning as a goal and is to provide all facilities and no barriers for teaching for everybody irrespective of the disabilities.

As per COL (commonwealth of learning) Open and distance learning is "a way of providing learning opportunities that is characterized by the separation of teacher and learner in time or place or both time and place, learning that is certified in some way by an institution or agency. The use of a variety of media, including print or electronic, two way communications that

allow learners and tutors to interact; the possibility of occasional face to face meetings; and a specialized division of delivery of courses."

So, it is a philosophy as well as methodology of providing learners at home, workplace or study center with print, television or video or online instructions for self paced study with good flexibility in entry as well as exit of the learning programme IGNOU and may other state open universities are kind of institutions, which fulfill the above mentioned choices of the learners.

Flexible Learning

It is again a methodology wherein the convergence of distance and open learning system happens under the total domain of technology, which make it free of place, time and access. The main thrust is the learner with equity of curriculum and pedagogy and thus cultivating a base for life long learning for one and all. It is the technique of learning which is generally helpful to all who under constraints of time and place are not able to have the education as per the desires and expectation. The technology has simplified them agony regarding education.

In making out my point, I have not looked into the details of the evaluation, the difference in the instructional systems as these are areas which require a separate discussion out of the context of this article.

In all the above mentioned methodologies of learning whether distance, open learning under flexible or inflexible conditions, has the plenty use of technology.

Technology And Distance Education

As per Bates (2005), "Technology is the infrastructure, the bones of distance education". Very definitely it is true not in present context but also when we look into the history of distance education. That is why, tracing its history Mukhopadhyay (1998) and Taylon (1998) Classify the distance education history in a sex and four stages. I, in order to trace the use of technology in distance education, will mainly make it convenient for three phase :

Ist Phase

* Place Dependent

IInd Phase

* Time Dependent

IIIRD Phase

* Time and Place independent

Place Dependent Technology (Ist Phase)

It is mainly a written or dictated material reproduces through print technology of a stereotyped content. In India this technology is in vague since 1960s till date. Of course in many Universities, It is now replaced by other technologies but in the dual mode institutions, it is still holding the important key in dis-

tance learning as the learners are supposed to prepare themselves at their home or workplace supported by a fixed place venue for personal contact programme (PCP). Time Dependent (IInd Phase)

It is second phase in evolution of distance education with technology, where in the print technology (hardware) was supported by the developing audio and later on television/video technologies (in the case of software). In India, such technologies started with radio, pre-recorded audio cassettes in seventies and the journey is going on. Most of the open Universities made the good use of these technologies. It not only supplemented the print technology with live conversation and programmes based on the content.

So, such technologies are always scheduled for 'on Air' and as such even though very appropriate to the needs of the learners but requires the time constraints to be available for that on air programme either on radio or television later on. Gyan Darshan and may other private channels.

Again, it was technology, which totally did not away with last phase of technology rather combined and supplemented this phase as Audio-video supported technology to the education . Time and Place Independent (IIIrd phase)

This phase in our country began somehow in late eighties and became very popular in the mid nineties and continues to grow strong in the explosion of knowledge and information. And it is primarily because of the technology that knowledge stated to be on piggyback. In India, distance education started to be popular with the advancement of technology both terrestrial as well sky (Satellite) technology. The open learning is most of time is using specially designed and launched satellite 'EDUSAT' in 2004. It has been specially configured to meet the requirements of the education in the country at all levels.

To meet the regional requirements of the language, high powered 'KU' Band multiple beams are provided. Multiple spot beams will help in optimizing the cost of ground segment and will cater the multimedia education package delivery. EDUSAT has 72 channels out of which 56 channels are dedicated to the formal education cover 3.34 elementary and 1.78 million secondary schools located in 5564 blocks of 593 districts of the Country (Shah, 2004). This phase of massive development in science and technology has not only augmented the previous phases of the development but made it more accessible, cost effective adaptive and the video-conferencing, teleconferencing because a style of learning. The technology from a being only 'Yantra' became the 'mantra' of education. It not made the learners technology savvy

but also supported their learning through multimedia approach mainly based computer assisted as well as computer mediated learning which started evolving more fiercely in late mid nineties till date with more of growing acceptability for computers and its related technologies. Started with continuous improvements in the storage devices to the cultivation of 'WWW', the distance education blossomed in the culture of 24 x 7 pattern leading to the conceptualization of flexible language as well as knowledge barriers.

It made the distance education to travel its path from being unpsychological, bookcentred, or inflexible to more psychological learner centred and flexible (Rattan, 2005). It is this major revolution of ICT in education which has not brought a change in techniques and methodology of delivering the content which slowly but very strongly a sufficient place and role for virtual universities conducting on-line examination as well as on-line degrees. The table 1 will demonstrate the developments in course of education and technology till date.

Development of technology education till date	
Teachers	
Manuscripts	Since vedic age
Printed Material (Imported)	400 years
Postal Material	150 years
Telephone	90 years
Radio	60 years
Film	+50 years
Television	30 years
Tape Recorders (pre-recorded cassettes)	30 years
Development of Technology in Education since 1980s.	
Video player (cassettes)	1980s
Audio conferencing	1990s
Video conferencing	1995
Cable TV	1995
The Internet	1990s
WWW & Internet	1995
Virtual Reality	2000
Teleconferencing	2000
Mobile technology	1997
Flexible learning	2001
Mobile learning	2005 onwards
Some Concerns and Issues	

Of courses distance education with the excessive use of technology in the west, has blurred the difference between the conventional classrooms and distance learning. But in Africa and in Asia, because of limited use of technology, the distance education is still to see its brightest time.

In India, due to major explosion in the population and escalating cost of higher education. The distance education is only alternate source of attaining higher education but due to some below mentioned issues. The technology in distance education is of limited in native, therein reducing the learning opportunity.

The issues and concerns are :

- i) Quality of distance education
- ii) Cost factor
- iii) Access
- iv) Students evaluation as assessment

Quality is the buzzword, these days in the field of education especially in higher education. It has happened because due to technology, educational services can be provided in any noon and corner of the world. Although in the early days, it was confined to a few of centers and universities but now, due to availability of technology, distance education is and being acquired by a large group which includes national and international students.

In order to have international validity in the globalization of standards and markets it is important that education being imparted should be of quality and a certification in this regard is always welcome. By this year, I am of opinion that Indian dedicated distance education centers as well as dual mode learning centers, should have been adhering to standards 150, which at present are not. It will not only open the distance education of India for more of acceptability but shall also set up the bench marks of standards for others to follow.

Although technology has opened many new windows for learning but the cost of technology and its use is still a bottleneck in the Indian context. The cost of technology should be reduced or it should be available through public banks at minimal possible interest tax. It will not only enhance the use of technology but shall also bring learning - teaching process as easily accessible and covering a large of population living in the far off the places. For it, the infrastructure development is the ultimate point of reference, out of which telephone and electricity are the priorities.

Another point, in Indian context, which needs a solution is in regard to the evaluation and assessment techniques for the distance learners of course in India, most of dual mode institution are using conventional method of evaluation and assessment, whereas the open learning centers are using tutor marked assignment (TMAS) as well as other methods of assignments. The point is that the circumstances and the psychology of the distance learners are different to the circumstances psychological situations of conventional learners. So, such techniques may be evolved on the international experience and expertise which may not only be testing their knowledge but a composite grade for knowledge, training as well as the usefulness for their professionals life. It is important as it will help them in the professional growth.

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