5 Nurturing Innovation in Open and Distance Learning System

Anuj Sinha

Introduction

Open and Distance Learning System is more than three decades old in India. It started with the establishment of Andhra Pradesh Open University (now called B.R Ambedkar University) in 1982. IGNOU came up as the National Open University in 1985. Thereafter, several State Open Universities and Distance Education Directorates have come up. Thirty years before nobody would have imagined that access to higher education is possible even without entering the portals of an institution of higher learning. In this regard, open and distance learning is indeed a big innovation in the scenario of education of our country. The system has impacted the teachers, students, guardians and all stakeholders, primarily by way of increasing the access. However, maintenance of quality is a big challenge and for that it is necessary that the process of innovation stays sustained.

This article reflects on the different features of Open and Distance Learning and narrates how innovation can be nurtured with a view to doing justice to each and every feature.

Background

The general public has a tendency to interchangeably use the expressions 'Open Education', 'Distance Education' and 'Correspondence Education' whereas they have different meaning. 'Correspondence Education' started on the basis of a need. The increase in population of our country has been assessed as that we are adding the population of Australia to the existing population every year. The increase is most prominent in the age group 16-24. Naturally the demand for higher education increases enormously every year. The brick and mortar infrastructure for higher education in our country is unable to cope up with this ever-growing demand. So it was felt that, rather than calling the teachers and students under the same roof at an educational institution it would be advisable to send the learning material to the residence of the learner. That is how correspondence courses got initiated. But it raised serious questions – "Where is the teacher?"; "If there is no teacher, how can proper teaching-learning transaction take place?" Since these questions could not be answered to with the desired satisfaction, lot of doubts got raised about the credibility of the system. Institutes of correspondence education do exist even today but we have come a long way by way of having a transition to the Open and Distance Learning (ODL) system.

ODL system is an aggregate of Open Learning System and Distance Education Methodology. Open Learning is a philosophy which manifests itself through several facets as under:

Learner Centredness

It is a system where all approaches towards the teaching-learning transactions are oriented towards the need of the learner.

Flexible Entry Norms

The entry norms are flexible. For example, there is no upper age limit. A candidate has to be 10+2 pass for getting entry into B.A./B.Com. but it is not essential for him to secure a particular threshold marks. One can join an academic programme at IGNOU while being a student of another university.

Individualized Study

Conventional system follows a synchronous mode of study. Here, a learner has the scope of studying according to his convenience. He can read the self-instructional printed material as per his desired schedule. Similarly, he can switch on the tape or the DVD player according to his convenience. He can freely use e-resources like open educational resources and other technology based teaching learning tools.

Trascendation of the Barrier of Space and Time

The access for study is now referred to as A3 connectivity. A3 stands for Anyone, Anytime, Anywhere. It is not only restricted to the delivery mechanism, it also includes the evaluation system.

Use of Modern Educational and Communication Technologies

With advancement of technologies, these are now being used widely in education dissemination.

Modular Approach Towards Study

A learner has flexibility of taking admission into an academic programme through several stages, like vertical mobility from Certificate to Diploma to Degree. Moreover, the learning materials are presented in modular form. A learner does not get a heavy text book which may cause intimidation, rather he gets several modules in the form of blocks.

Resource Sharing

The institution, basically an open university conducts the support services for its students through learner support centres which are hosted by existing academic institutions. The sessions pertaining to open university take place at hours which do not clash with the usual working hours of the host institution. Thus the brick and mortar infrastructure gets shared.

Option of Free Choice of Course

An open university follows a cafeteria approach. In a cafeteria the names of the dishes are provided in the menu card along with their prices. We can draw an analogy between the dishes and the courses and the prices with the number of credits. At the cafeteria one can select the dishes as per one's choice of course within the limits of one's affordability. In other words, one has to keep track of the money in one's pocket. Likewise, here one has to select courses up to the total number of credits earmarked for a programme and one has the option of free choice. One can select courses as per one's aptitude and capability.

Scientific Scheme of Evaluation

The scheme of evaluation is very scientific as it is an aggregate of formative and summative components.

Cost Effectiveness

This system is cost effective because of the provision of sharing of resources.

Support Service Network

Every institution following ODL system creates network of support services through learner support centres of different nature to suit the requirement of various programmes on offer.

Collaboration and networking with the conventional universities, state open universities, other institutions and organisations

A unique feature is the provision of collaboration with the conventional universities, other open universities, the distance education directorates, the correspondence course institutions and several other institutions/organisations of repute.

Facilities of 'Credit Transfer' and 'Credit Exemption'

Credit system is followed for the academic programmes. There is provision of 'transfer of credits' earned by a learner at an academic institution where he studied previously.

Associate Studentship

The system provides the facility of Associate Studentship, that is, one can register for a particular course without registering for the whole programme.

While Open Learning is a philosophy, Distance Education is a methodology.

It is a concept wherein the learner is at a distance from the teacher. The teacher is inbuilt in the learning material as a judicious combination of the following components:

- Print
- Audio
- Video
- Interactive Audio via radio
- Interactive Video via satellite
- Virtual classroom via internet

This means that the teacher is omnipresent. After interacting with this teacher through the above components the learners get the benefit of face-to-face counseling and guidance at the learner support centres.

Now that we have spelt out the features of Open Learning System and Distance Education Methodology, we may take their aggregate to constitute the ODL system.

Scope for Innovation in ODL System

As a matter of fact every feature of ODL can be considered to be a sub-system of the main system. In order to sustain the innovation in the ODL system we need to nurture innovation in every sub-system. Innovative practices are required in course design, course preparation, organisation of student enrolment, facilitating the exercise of the option of free choice of courses by a learner, the entire delivery mechanism, conduction of face-to-face interactive sessions and tutorial, mechanism of evaluation, impact assessment, benchmarking for quality management and research.

As mentioned earlier, tremendous advancement of technologies has taken place but despite that print happens to be the mainstay in our country. Thus one has to innovate in respect of design of the printed materials which are supposed to be self instructional, that is vastly departed from a usual text book. There is lot of room for making innovation in respect of preparing a self instructional material. The most crucial issue is that the style should be conversational like the teacher talks to the students inside the classroom. The whole classroom situation needs to be approximated as closely as possible in preparing the self instructional material.

As we have seen earlier that the Distance Education Methodology has evolved through various stages – print, audio, video, interactive audio video, virtual classroom via satellite as well as via internet. One important aspect of innovation is that of making judicious combination of the different modes depending on the objectives of the curriculum, need of the learners, cost effectiveness, timelines, etc. So let us discuss about that.

Judicious Use of Technology

Once we take the issue of technology we should be fully aware about its availability and also the different forms through which is available. During mid 80s and 90s the emphasis was on preparation of educational audio video programmes. Excellent programmes were prepared through which the learning objectives could be brought home very elegantly. But with the turn of the century we have indeed come a long way, primarily by way of application of internet which is a treasure. This has given rise to facilities of online learning, open education resources, open access, electronic portal, etc. Now, Information and Communication Technologies (ICT) encompass a big gamut of facilities. We need to make a judicious choice among them. But, let us first understand, why ICT. If we divide the whole process of civilization into three eras of revolution, namely agricultural, industrial and ICT and follow a comparative study regarding need for capital investment, training and real estate through Table 5.1 given below, then we find an interesting feature:

Table 5.1: A Comparative Study

Eras of Revolution	Capital Investment	Training Requirement	Real Estate Requirement
Agriculture	Yes	Yes	Huge
Industrial	More than above	More than above	Almost as above
ICT	More than above	More than above	Nil

In order get the desired fruits out of these revolutions, capital investment is required in each case and the quantum is in ascending order from agricultural to industrial to ICT. Same is the situation with training requirement. As a matter of fact, very sophisticated training is required in respect of ICT. But when it comes to real estate we find that the requirement is quite huge for agricultural and industrial revolution, whereas in case of ICT it is NIL**.** This is indeed a great advantage which needs to be exploited properly. The other advantage of ICT is complementarity of time, internet is available 24X7 and moreover, when it is night in USA it is day in India and vice versa.

While exploiting the advantage of internet, we should be aware about the following word of caution:

All that is data is not information,
All that is information is not knowledge,
All that is knowledge is not wisdom, and
All that is wisdom need not be the truth.

The above word of caution is very much relevant for the teachers and the guardians of today. They are not as much computer savvy as their students and wards. But still they need to guide the students and wards towards proper use of ICT.

In the backdrop of above we shall discuss about the strategy of teaching-learning transaction by choosing a specific subject with the idea that specificity leads to more clarity than generalisation. As a student of science let me pick up *'The First and Second Laws of Thermodynamics'*. Now what does the topic involve? It has in it a few statements, definitions, mathematical analysis, description of thermal engines and so on.

Normally a student would like to read the definitions, statements, descriptions and even the mathematical analysis from a text. For all these print is the most suitable medium. It may also be enabled through the online mode using a suitable learning management system (LMS). Where other multimedia components can be provided. The print medium, like a book has passive diagrams. Using the LMS, animated diagrams and videos can be made available. Again in the text, the keywords, the key concepts can be highlighted and provision can be made like clicking on highlight leads to opening of a page wherein further relevant description leading to more clarity can be provided. Even the mathematical analysis can be made interactive. For example, arriving at the pressure-volume relation of an ideal gas during an adiabatic process is a very common example of the first law of thermodynamics. The standard text books while presenting the said mathematical analysis presumes that the ratio between the specific heats at constraint pressure and constraint volume is invariant, which is not the exact situation. It requires to be given a thought and the invariance of the ratio comes in a restrictive sense. The steps relevant to this part of the analysis can be brought home through interactivity which can be facilitated through the LMS. Now comes the issue of some of the descriptions, particularly the thermal engines. For this aspect video happens to be the best medium. Provision can be made through the LMS for switching over from the text to audio-video snippets.

We have already mentioned that the description of thermal engines can be brought home through videos. The basic significances of the first and the second laws of thermodynamics are that they respectively rule out the possibility of what are known as perpetual motion machines of the first and second kind. There are interesting stories regarding attempts to develop perpetual motion machines. The failure to construct such machine forms the experimental bases of the two laws of thermodynamics. Such stories can help in enriching the concepts of the learners. Again videos may be considered for presentation of such stories. But the potential of audio should not be under-estimated. It is true that an audio programme will not allow us to have discussions on areas which needs visual medium. But the stories can be scripted in such a manner that the effect of video can be compensated to a great extent. After all producing an audio is simpler and cheaper than that for a video.

Audio can also be used for conducting quizzes. It has to be managed in an interactive manner where the quizmaster will be a teacher of physics. His task will not be restricted only to telling whether or not the answer provided is correct and mentioning the right

answer when the same has not been obtained from the participants. With every question he will provide an explanation regarding the correct answer irrespective of it being obtained from the participants or spelt out by him. Quiz programmes are always very vibrant and thus it would be able to sustain the interest of the learners about the subject.

There are many learning materials on thermodynamics through open education resources (OER) and open access (OA) while preparing the LMS due consideration has to be given for best possible utilisation of OER and OA, of course keeping in mind the issues related to intellectual property rights. The idea behind using OER and OA is that we need not go for reinventing the wheel. Several relevant Lectures, CDs, etc., are available on the net. It would be advisable to cut down the CDs to small snippets on points which are linked with the vital concepts. Viewing a CD for 25/30 minutes may be monotonous. Hence, the process of preparing small snippets would be useful.

The LMS can be best used for questioning. As a matter of fact, 'SAKSHAT' is an one-stop electronic portal of the MHRD, Govt. of India which was dedicated to the nation on 30th October, 2006 by the then President of the Union of India, Dr. A.P.J Abdul Kalam. It has used a four quadrant approach through its LMS. The first quadrant contains the animated text. The second has the OERs and the OAs. The third quadrant has the audio-video snippets and the fourth quadrant has the questions with solutions. A similar approach may be followed here after making judicious choice of the modes.

Here we had taken the example of the laws of thermodynamics from physics. A similar exercise can be done for any other discipline. It must be borne in mind that identification of the technological mode is extremely important before going to apply it for education dissemination. Such identification must be done based on the learner profile, infrastructure available to them and above all their sensitivity towards use of technology for teaching-learning transactions.

Conclusion

The innovation angle in respect of this topic is three-fold:

a) Identification of the ideal technological modes for dissemination of the sub-topics of a larger topic.

b) Using technology judiciously to bring home the topic elegantly.

c) Sensitising the learners as well as the teachers towards the potential of technology use for teaching-learning transactions.

As a matter of fact item (c) is very crucial without which (a) and (b) become ineffective. Moreover, one has to remember that technology can not enhance the teaching competence. If anyone is an incompetent teacher, his/her performance will be even more disastrous in front of the television camera. Innovative approaches are to be adopted to ensure the increase of outreach of the best possible teachers and teaching strategies.