ENVISIONING THE FUTURE OF OPEN AND DISTANCE LEARNING SYSTEM IN INDIA

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Open and Distance Learning (ODL) system has been instrumental in enhancing the access to quality higher education in India. Over a period of the last thirty five years, ODL institutions have successfully changed the image of ODL to multimodal technology supported education, and have become a credible alternative to conventional higher education. In the coming years, challenges before ODL institutions especially on technology integrated education and quality concerns, will be immense. For sustenance and greater impact, ODL system will have to be transformed to a learner-centric approach, coupled with technology-enabled online education system. Transition towards online learning can overcome some of the biggest challenges faced by conventional higher education as well as ODL. With the greater emphasis on cost effective online education which is beyond the limitation of territorial jurisdiction, the ODL Institutions have to remodel their framework aligning with technology supported learning environment. For realizing the Online ODL institutions in near future, there is a need to have separate regulations or the existing regulations need amendments. Together, with synergy and an integrated approach, ODL institutions need to be converted into Centres of Excellence in Technology Supported Accessible Learning and this is the vision for reimagining ODL institutions in India.

PRELUDE

In the last 38 years, since the establishment of the first State Open University (SOU) in India, an alternate medium of Open and Distance Learning (ODL) has changed the canvas of higher education in the country. The success of Open and Distance Learning (ODL) system in the higher education scenario of our country is due to its technology acumen, accessibility and flexibility. As per the AISHE Report (2018-19), "Distance education has become a useful mode for obtaining degrees for a large number of students who are staying in far off and remote areas and for whom accessing universities on regular basis is still a dream. Distance enrolment constitutes 10.62 per cent of the total enrolment in higher education, of which 44.12 per cent are female students. Six states are providing education to around 59.04 per cent of the students in the entire country. These states are: Delhi 16.2 per cent; Maharashtra 16.1 per cent; Tamil Nadu 10.2 per cent; Kerala 6.2 per cent; Uttar Pradesh 5.2 per cent; and West Bengal 5.1 per cent. Postgraduate, Undergraduate, PG Diploma, Diploma, and Certificate levels share of distance enrolment in the university is 28.8 per cent, 77.8 per cent, 2.9 per cent, 3.7 per cent and 1.23 per cent respectively".

As per the estimate of the University Grants Commission (UGC), as, a total of 118 Higher Education Institutions (HEIs) including 15 open universities are catering to higher education needs of more than 40 lakh students(UGC, 2019).

TRANSFORMATION OF OPEN AND DISTANCE LEARNING TO ONLINE LEARNING

The Ministry of Human Resource Development, Government of India, is setting a target of GER of 40 per cent by the year 2024. With greater role to be played by the Open and Distance Learning (ODL) system, it is inevitable that the ODL system will have to be transformed to a learner-centric approach, coupled with technology-enabled online education system. The key factors in this transformation could be visualised as:

- Progression from conventional student support to ICT-based student support;

- Remodeling printed Self Learning Materials (SLMs) to Digital/SLMs;

- Face-to-Face Counseling to Four-Quadrant-based Support (e-tutorial, e-content, web resources and self-assessment);

- Three-tier Conventional ODL system to two-tier ICT-based Learner Support System;

- Training and capacity building for ODL system to online programmes/courses;

- Pen-paper system to Online Assignments and Examination Reforms;

- Shifting from Copyright Materials to Open Education Resources (OERs);

- Skill development through Physical Laboratories to Virtual Skill and Science Laboratories;

- Succession from ODL Regulations to Online/MOOC Regulations; and

- Periodical revision of programmes to continuous revision.

A diagrammatic representation of the transformation of ODL system is given in Fig. 1, wherein face-to-face counseling is augmented through audio-visual (AV) lessons, television and radio counseling (Gyandarshan and Gyan Vani), and online counseling. Printed Self Learning Material (SLMs) are transformed into digital SLMs with web resources and OERs. Physical libraries are replaced with virtual libraries and conventional tutor marked assignments and examinations have been replaced by online assignments and evaluations.

Conventional Student Support to ICT-based Student Support

For increasing access to education, the open universities as well as dual mode institutions need to think beyond conventional Learner Support Centres (LSCs). The management and operation of conventional LSCs requires dedicated manpower

FIG. 1: TRANSFORMATION OF ODL TO ONLINE LEARNER
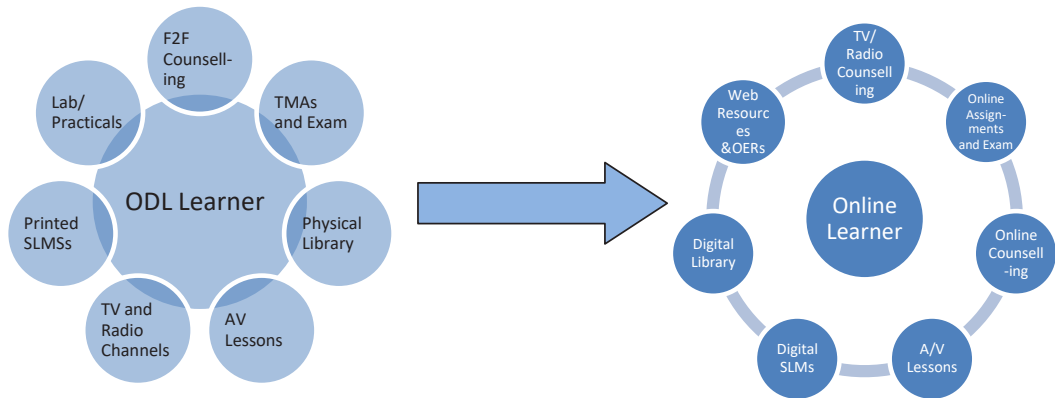
and regular monitoring since it has a sanctioned capacity to allocate learners as per UGC ODL Regulations. With greater emphasis on an increased learner base, it is imperative that ODL institutions will progress towards conventional student support to ICT-based student support. The key ingredients for this proposed transformation are presented here.

From Face-to-Face to TV/Radio (AV) Counseling

It will be an alternative to the conventional LSCs based face to face counseling. In the TV/ Radio based web counseling, the live lectures of the faculty of the university will be transmitted through TV channels and radio channels with option of live streaming through YouTube or Face Book. Subsequently, soft copies of these lectures maybe provided online for subsequent use of the students who could not participate in the web-based counseling. In other words, the face-to-face counseling may be replaced by ICT-based counseling. The extensive use of 24x7 educational TV channels i.e. Gyan Darshan and FM radio channels Gyan Vani will definitely add value to the web-based counseling. Besides, SWAYAMPRABHA Channels of MHRD can suitably be tailored into offering electronic counseling to the learners of ODL mode.

Conventional LSCs as Smart Classrooms or Digital LSCs

Conventional LSCs have limited infrastructure to cater to a sanctioned number of learners as per ODL Regulations. A systematic effort needs to be initiated in due consultations with the host institutions to upgrade the LSC infrastructure to convert into smart classrooms or digital LSCs. The upgraded LSCs may require broadband connectivity, smart TV, digital board, satellite dish besides the infrastructure available at the conventional LSCs. Since Smart LSCs can cater to the increased number of learners as compared to conventional LSCs, they will be helpful in increasing the learner base of the ODL mode institutions. The only limitation of smart classrooms is internet connectivity and hence conventional LSCs may continue at all those far flung and difficult areas where digital connectivity is a major concern. The EQUIP report of

the MHRD estimates that by 2023-24, additional 3289 conventional and 1647 smart classrooms or digital LSCs will be catering to the increased load of learners @1000 learners per conventional LSC and @ 2000 learners per smart room-based LSCs.

Technological Intervention in Admission i.e. Online Admissions

Technological interface has two basic advantages: transparency and cost effectiveness. The ODL institutions will move towards complete automation of the admission system by integrating the online payment gateway system. A robust online admission system with cloud server support will be capable of managing the increased load of the potential applicants for the admission in the ODL system. Admission confirmations, Digital Student Identity Cards and all the post admission related information will be provided to the students through this system. The entire online admission system will also be offered through a learner friendly app for facilitating admission at the doorstep. The ODL institutions should visualise and develop a dedicated common online admission framework integrated with all the open universities' admission system.

Transition from Conventional Libraries to Digital Libraries

In the conventional ODL system, the access to learning resource through libraries is principally at two places i.e. Central Library at the institution itself and library at the regional centres. However, the ODL institutions also need to make a concerted effort to provide access to libraries at the learner support centres Limited access to latest editions of books and journals and shrinking budgetary provisions are two main reasons for the detachment of ODL learners with the libraries. With progressive integration of technology, learning resources are now available through digital libraries or digital laboratories in the form of text, images, social media files, audio and video files including e-books, online journals, etc. The biggest advantage of digital libraries is that the digital content of learning resources can be housed centrally, say, at the ODL institutions itself, and the remote access could be given to all the LSCs for them to be interoperable, sustainable and cost effective! From the ODL point of view, these digital libraries don't require physical space and they are accessible 24x7, and their availability with multiple accesses and quick information retrieval make them ideal components for ICT-based student support.

Remodeling Printed Self Learning Materials (SLMs) to Digital SLMs

For a sustainable environment, an effort would be undertaken by the open universities and dual mode institutions (HEIs) to transform their printed SLMs into the digital SLMs in a progressive manner. Learners should be encouraged and motivated to opt for digital SLMs. The digital repository of the SLMs should be made available in all the desired formats i.e. desktop, mobile, kindle, or as an app. The ODL learners will be able access SLMs through its dedicated e-content app. To popularise the digital SLMs, open universities and other ODL institutions can consider offering some incentives to the students ranging from 10 to 15 per cent relaxation in the student fee for opting

Digital SLMs. It is worth mentioning here that over one lakh students in the July 2019 session of IGNOU have opted for digital SLMs. If open universities and other ODL institutions shift towards digital SLMs, it is expected that, by the year 2030, more than 70 per cent of total students under the ODL system will be shifting towards digital SLMs. With the integration of technology in the ODL environment, digital SLMs would be integrated with audio/video lectures, Open Education Resources (OERs) and learner study pattern and progression framework. The most important aspect of this initiative would be less reliance over printed materials and reducing the usage of paper and thus contribute towards sustainable future and environmental protection.

Face-to-Face Conventional Counseling to Four Quadrants' Based Support

The face-to-face counseling is an integral part of the conventional ODL student support framework. With a greater emphasis on increasing learner base and that too without compromising on the quality of instructions imparted to the learners, the ODL institutions in near future will transform into student-centric technology-enabled online learning environments with four basic quadrants (Fig. 2):

1. *Online-Tutorial*: Video and audio content, animation, simulations, virtual labs;

2. *Online-Content:* Portable Document Format or e-Books or illustrations; video demonstrations documents; and interactive simulations wherever required;

FIG. 2: THE FOUR QUADRANT MODEL
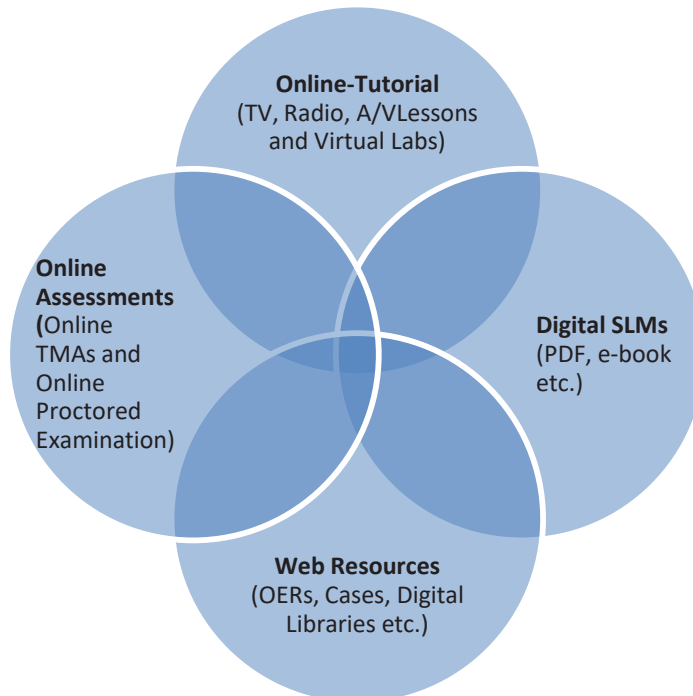
3. *Web Resources*: Related links, Open Content on Internet, Case Studies, Historical development of the subject, Articles;

4. *Online Assessment*: MCQs, problems, quizzes, assignments and solutions, discussion forum topics, setting up the FAQs and adding clarifications on general misconceptions.

This initiative will certainly augment the capacity of open universities and ODL institutions to cope with the increased load of learners together with quality oriented and cost effective learner support environment.

EXAMINATION REFORMS THROUGH TECHNOLOGY

Online Assignments

The tutor marked assignments are one of the essential components of continuous assessments of the evaluation methodology adopted by the ODL system. With the increasing base of learners over a period of years, management and evaluation of assignments have become a Herculean task and integrating the assignment marks/grades along with theory/practical examination in a time bound manner is real challenge for the educational administrators of the ODL institutions. ODL institution needs to think towards the technological interventions for online assessment of the assignments. The online assignments can be hosted on the Learning Management System (LMS) of the university with facility for computer marked assignments (MCQ based questions) and online submission of assignments (essay-based questions) on the LMS with plagiarism check facility and its evaluation on the LMS itself. This transparent system facilitates tutors for marking the assignments as per its convenience and students get tutor comments and marks/grades on the assignments on the LMS itself. The integration of assignment marks together with marks of year/semester end examination becomes a hassle-free exercise.

Other Digital Technologies

Besides admissions, the examination system also needs complete overhauling because of increased student load witnessed by the ODL institutions. Again, with the intervention of technology, there will be increased efficiency and transparency in examination process. A dedicated online examination registration system with electronic payment gateway system facilitates a hassle-free examination registration process for the students. The system also has provision for photo and signature enabled examination ticket. It facilitates the university towards a logical allotment of students to examination centres and its monitoring. To further enhance confidentiality and secrecy in the examination system, digital delivery of question papers (encrypted question papers) with password protection is being explored. Through this, safe and secure delivery of the digital question papers can be ensured at the examination centres. To further enhance the monitoring of the proctored examination of the

students, CCTV based examination monitoring can be explored. Another aspect of the examination system, which also needs technological interventions, is the evaluation of answer scripts of the students. Online marking of answer scripts is one such example. Many conventional universities have already implemented the system of online evaluation and open universities need to seriously think about adopting it. In this, the answer scripts are scanned through high speed scanners and then transmitted digitally to the designated examiner/ evaluator. The concerned examiner evaluates the answer scripts digitally and marks are transmitted and recorded in the tabulation system for preparation of results. ODL institutions can also brainstorm towards developing an online evaluation methodology starting with online programmes offered by them. It could be on the pattern of online evaluation methodology practiced in the SWAYAM/ NPTEL courses for online examination.

TRAINING AND CAPACITY BUILDING FOR ONLINE PROGRAMMES/COURSES

The open universities and dual mode institutions can develop their respective strategies for offering online programmes, subject to fulfilling the conditions as laid down in the University Grants Commission (Online Courses or Programmes) Regulations, 2018, and its amendments. The most challenging aspect of offering online programmes is lack of trained human resource – both at the teaching level as well as the technical and administration level. Concerted effort is needed through collaboration amongst the open universities and other ODL institutions for training and capacity building programmes. The ODL should identify the training needs and accordingly, specialised institutes such as Staff Training and Research Institute of Distance Education (STRIDE) of Indira Gandhi National Open University (IGNOU) or similar training institutes can prepare tailor made training programmes for capacity building of teachers and academic administrators for online programmes/courses and its related support services. It would be more apt to say that development and training and capacity building framework for Online Programmes is the need of the hour. Another good option could be SWAYAM based courses exclusively designed on capacity building for online programmes with a certification process. The capacity building programmes could include the following suggested areas:

Transition from printed SLMs to digital SLMs including e-books;

- Integration of OERs with SLMs;
- Development of audio/video lectures;
- Live counselling through TV and Radio;
- Practical counseling through virtual labs;
- Computer based assignments/assessments (MCQs, quizzes etc);
- Online proctored examinations

Three-Tier Conventional ODL system to Two-Tier ICT-based Learner Support System

The Role of Regional Centres (RCs) in the three tier ODL system framework is tremendous as they act as the first contact point of the potential students and students remain associated with the RCs throughout their ODL journey. It is highly imperative that regional centres should be revitalised as Centres for Diverse Learning Environment or as Mini University Campuses within the University. Rather, the role of regional centres can be visualised as Model Online Learning Centres (MOLCs) wherein all the facets of synchronous and asynchronous learning environment could be created. In the near future, these MOLCs will be replacing the conventional LSCs and thus converting the three-tier ODL system to a two-tier Online Learning system.

Transition from Copyright Materials to Open Education Resources (OERs)

The present era higher education environment is surrounded by cost effective technology and collaboration for educational resources. Open Education Resources (OERs), which are available in public domain both in digital and non-digital modes and have tremendous potential for teaching, learning and research. The true potential of OERs is yet to be realised for educational benefits by the ODL institutions. The open universities and ODL institutions can collaborate towards developing the learning resources for OERs and utilising the existing OERs for integration with respective SLMs. This approach will have twin benefits, the first being availability of updated and revised learning materials and secondly collaborated SLMs without copyrighted materials, thus facilitating the sharing amongst the ODL institutions. The OERs can benefit the ODL institutions in many ways. The are:

- Extending access to learning and thus reaching the unreached;
- Flexibility to modify the contents of the course/ programme in cost effective manners;
- Upgradation and augmentation of existing course materials;
- Rapid propagation of information and learning contents;
- Cost effective learning resources for the students; and
- Regular revision of course materials

All the above positive advantages of OER-based learning materials will reduce the cost of offering ODL education and thus make the ODL mode of education accessible and equitable.

Skill Development through Virtual Skill and Science Labs

One of the limitations of the present ODL environment is limited access to professional and practical/hands-on training based programmes and courses. Such programmes have compulsory components of lab-based curriculum involving practical sessions

and mandatory physical presence. Also, these computer/science labs are presently located in the conventional higher education institutions and ODL institutions have to completely rely on the limited availability window of these labs. An initiative of the MHRD under National Mission on Education through ICT is Virtual labs for UG/PG students for remote access to the laboratories in various disciplines of Science and Technology. They help the students in learning basic and advanced concepts through remote experimentation. One of the objectives of these are to 'provide a complete Learning Management System around the virtual labs where the learners can avail various tools for learning, including additional web-resources, video-lectures, animated demonstrations and self-evaluation. The participating institutes under these initiatives are IITs, IIIT Hyderabad, NIT Karnataka, COE Pune, Dayalbag Educational Institute and Amrita Vishwa Vidyapeetham. These kinds of virtual labs under the ODL framework can enhance access to quality education in professional and lab-based programmes. Under the National Mission on Education through ICT are virtual labs, these is a provision for setting up the nodal centre for virtual labs and ODL institutions can explore the options in such cases.

REQUIREMENT OF SPECIFIC REGULATIONS FOR ONLINE ODL

The UGC Open and Distance Learning Regulations 2017 and the UGC Online (courses or Programmes) Regulations 2018 with their amendments are already in the public domain for operationalisation. For realizing the Online ODL institutions in near future, wiith the objective of increased access through online supported learning and professional and practical/experiments based curriculum/ programmes, there is a need to have separate regulations or the existing regulations need amendments to address the following:

- AV supported TV and Radio counseling replacing face to face counseling;
- Programmes/ courses with lab/ experiments / hands on training through virtual labs;
- Skill development courses through virtual labs;
- Transition from printed SLMs to Digital SLMs integrated with OERs;
- Computer marked assignments;
- Submission and evaluation of online assignments with plagiarism checks;
- Learning Management System for ODL student support; and
- Online Programmes / courses other than those offered in ODL mode.

CONCLUSION

In this era of Information and Communication Technology, it is in the fitness of the purpose for the ODL institutions to integrate technology into all its domains and make sincere efforts towards providing technology enabled learning environments. ODL system will have to be transformed to a learner-centric approach, coupled with

technology-enabled online education system. Transition towards online learning can overcome some of the biggest challenges faced by higher education vis a vis ODL system. Apart from this, technology enabled ODL will help in combating other challenges of traditional ODL system i.e. huge expenditure in printing and distribution of SLMs; conducting examinations; and delay in delivery of SLMs to the students. Since the receipt of SLMs is first point of commencement of learning process in the ODL system, delays or incomplete receipt of SLMs can hamper the objective of effective and efficient learner support system. The digital SLMs can overcome these challenges of printed SLMs and physical examinations as well. The second biggest advantage of online technologies is developing a culture of collaborative framework of ODL institutions for design, development and sharing of resources for digital technologies and thus making it cost effective too. The only challenge that one can foresee is its adaptability in the heterogeneous group of learners and accessibility related issues due to connectivity problems. However, these issues could be addressed with the help of different strategies. For example, some of the SOUs have taken a unique initiative of offering 10-15 per cent fee concession for its students opting digital SLMs through a dedicated e-content app in the year 2019. This initiative was a huge success as more than seventy thousand students opted for digital resources. Connectivity related issues can be addressed by providing digital materials in portable devices like cost effective digital pads, mobile devices etc.

It is worth mentioning that ODL has been instrumental in enhancing the access to quality higher education in India and, over a period of the last forty years, it has become a credible alternative to conventional higher education. ODL institutions have successfully changed the image of ODL to multimodal technology supported education. In the coming years, challenges before ODL institutions especially on technology integrated education and quality concerns, will be immense.

Together, with synergy and an integrated approach, ODL institutions need to be converted into Centres of Excellence in Technology Supported Accessible Learning and this is the vision for reimagining ODL institutions in India.

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