A Critical Investigation of Scope, Opportunities and Challenges in Online Distance Learning Education System in Indian Perspective: A Futuristic Outlook for Scaling Quality Education

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Abstract

The imperative role of ODL in today's learning environment confronted with career complexities and matched with technological advancement with respect to ICT, web tools have made it a highly re-inventive approach that can serve multiple benefits to larger masses. The major area that requires attention in this regard is that the quality, accessibility and the infrastructural support matched with the level of education and knowledge outcome that are associated with the courses offered by the varied institutions in today's scenario. Thus, understanding the evident role of ODL in rising and emerging new face of India with ever increasing courses and specialization been offered in varied fields and making it significant for the masses is important. The present paper aims at understanding the scope, application and varied tools that support ODL and certain gaps that need special attention and intervention so as so scale up the level of education and contribution of ODL in shining India as a new face of growing economies.

Key Words: *Online Distance Learning, Web Based Tools, Synchronous and Asynchronous Learning, IT Infrastructure*

Introduction to ODL in Indian Context

It is a well-known fact and also as found by different researchers that distance education evolved incrementally over years realizing the importance of creating multiple platform for course seekers that is otherwise difficult since not many seats are available and this creates an opportunity for scaling up the quality education (Spector, Merrill, Merrienboer, & Driscoll, 2008). Thus, the need of expansion in distance education accompanied with technological support opened new vistas for future development.

Thus, open learning matched with digital environmental support, online learning tools and various methods of assessment and interaction, accessibility strengthened the position and demand of online learning in distance mode. The only big challenge that remains is ensuring the quality and consistency of these features been offered by different institutions and similarity in them which needs to be regulated by government at large which indicates that the same concept of total quality management needs to be implemented in quality education

also whether it is with respect to customer awareness with relevance to the user/learner, Internet also made the mechanics of online learning much easier to implement. Students are able to see their grades instantly. Instructors were able to make global changes to lectures and reading lists as and when needed. Students could take tests and quizzes online, and in some cases, receive grades right away.

While distance learning may seem like a relatively new phenomenon, given its increased popularity in the online format, in reality people have been taking courses offered by non-local instructors for hundreds of years. Some of the earliest distance learning on record dates back to 1728 and offered to teach students how to write in short hand through lessons sent to their home weekly. These simple, practical lessons were commonly taught through the mail throughout the 1700's and 1800's and allowed anyone to gain valuable job skills even if they lived well-away from major centers of education and commerce. The refinement and expansion of postal systems

in the U.S. and abroad brought about the true beginnings of distance learning as we know about it today. Students and instructors could communicate with one another fairly rapidly and send materials back and forth with little difficulty.

One of the first universities to offer a distance learning degree was the University of London which established an External Programme in 1858.

By the 1960's, distance learning had grown tremendously and distance learning universities were comparable in size to traditional universities. In the United States, the forerunner in distance education was the University of Wisconsin-Madison which was funded by the Carnegie Foundation and it brought together a variety of communications technologies to help provide learning to students who were off-campus. These ideas were later emulated by schools around the world and provided a much more rapid and modern way to share information and education with students who could not attend traditional courses. Today, distance education is offered through a variety of formats. Radio, television, telecommunications and especially the Internet have come to play an integral role in expanding the minds of students around the world. With the wide distribution and accessibility to computers, distance learning has become faster and more prevalent. Some solely online universities such as Phoenix University have hundreds of thousands of students and numerous institutions both small and large have sprung up in the past decade.

One such form, online learning, is known to have a history of access beginning in the 1980's whereas another term, referred to as e-Learning, does not have its origins fully disclosed Harasim, 2000). As researchers and designers utilized these emerging technologies, we find that a relaxed use of the terminology makes it difficult to design and specific characteristics (Phipps & Merisotis, 1999). The design of different types of learning environments can depend on the learning objective, target audience, access (physical, virtual and/or both), and type of content. It is important to know how the learning environment is used, and the influences of the tools and techniques that distinguish the differences in learning outcomes as the technology evolves.

The objective of present paper is to understand the scope, opportunities and different technological support in form of various tools and techniques available to support and promote growth of ODL and thus up scaling the distance education mode supported by online education and how it can help in making this medium equivalent to regular course thus helping directly to increased enrolments and up gradation of skilled and educated workforce.

Rationale for Research in Distance Education in India
There were many logical reasons of initiating open and distance education system in India. It was in 1962 that correspondence education was introduced by Delhi University as giving admission and seats in its constituent colleges was not possible for DU. Thus the only alternate solution was correspondence course which not only helped the students seeking admission here but also gave an motivation tom others who had either left their studies or were working and thus could not attend full time classes thus benefitting larger masses.

Thus this method proved to be much more useful and thus was adopted by other universities as well since it proved to be a more economical factor than formal education and thus gradually attracted others. This is one larger benefit of open education system where a larger mass irrespective of social or economic background can be catered by this system. The only gap that existed earlier with respect to distance education courses and the learners was that there was no connect and expectations of the learners were not catered by the university or the institution but in today's environment with all technological expansion the expectations, gaps, selective fulfilment of individual needs with respect to content, expert interaction, solution to all queries, proactive information availability

and accessibility for everything like fee structure, course detail, content right from books, PowerPoint presentation, quizzes, earlier exam papers, choice to select exam dates based on schedule, result availability and any such query to make user/learner comfortable and stress free but still it is not a common feature with all such institutions running/offering such courses and thus needs a check so that learners needs can be met.

A very important factor with respect to understanding users/learners needs is so because they are from different background, status, social group, geography thus in order to enable to make it more useful for learners study of different environmental factors that affect the effectiveness of these programs is important.

Such study will also be important as they will help in creating a suitable academic environment, understanding social, academic & labour market expectations and availability and matching it with the knowledge delivery been provided by these courses.

The scope and rationale behind the online and distance Education system is promptly progressing in Indian context but the only limitation is that research in this mode of education is limited. There is need for conducting research on distance education since it provides the empirical data which can be used for the development of the system. Though many studies have been carried out on Indian Open and Distance Education since seventies. Most of the studies lacked comprehensiveness, methodological rigour, and compatibility with the system and its practices. It was only in India when, for the first time in 1962 at higher education stage, there was much doubt and caution, for this mode was commonly perceived as a second channel for the leftovers of the campus-based colleges and universities whereas the real logic was to equalize educational opportunity and hence making education democratic.

Literature Review

Based on one of the paper by Susan Garden ,on "Use of multimedia in online distance learning" it is found that currently, there are over 10 million students online globally (Jalobeanu, 2003) and there are common observation regarding the challenges and the opportunities in ODL namely need of new sources for training and education, need of good instructional design, more engagement in smart and active learning more asynchronous learning , equity in acceptance and standard of distance education supported by online mode and regular course and a quality check needed for effective design , delivery and usage.

Mishra (1991) revealed that majority of the distance education institutes in the universities had no autonomy, innovativeness and decision making power.

Bhattacharya (1991) studied how and to what extent Open University can mould itself to fulfil the requirements of rural India. It was revealed by UGC (1986) that the institutes of correspondence courses were treated as separate units of the universities for all practical purposes. However, they were governed by the rules which are usually framed for regular courses and thus, inappropriate for Distance Education.

A comparative study (Biswal, 1979) on academic motivation of distance and conventional students revealed that correspondence students had lower level of academic motivation than that of their regular counterparts. At the university level, learners joined correspondence courses in preference to regular conventional courses because of several personal and socio-economic reasons. The reasons as identified by Koul (1982) and Sahoo (1985), are: non-availability of time, mental maturity of learners, non-existence of colleges in one's locality and heavy expenses to be met in formal college education. Several background factors like age, employment, paucity of time, poor financial condition and performance in the last qualifying examination have also impacted upon their decision (Khan, 1982 and Sahoo, 1985). At the secondary stage, Singh (1980; 1983) found that learners preferred correspondence courses to regular schooling because of

their being employed, their involvement in household activities, non-availability of school facility, and failure in regular courses. Multimedia is a concept that emerged in the 1950s and commonly referred to a method that combined at least two media formats such as text and video or audio at one time to derive a more complete, not necessarily educational, effect (Heinich, Molenda, Russel and Smaldino, 1996). Another definition is: "Media providing multisensory experiences, such as sound, visuals, animation and interaction with the media" (Porter, 2004, p. 311). Multimedia use in online distance education may include any additional materials utilized within a course and includes linked text documents, simulations, linked video, games, and music (Porter, 2004). Multimedia interactivity usually refers to a particular kind of technology and not group behaviors such as emails between students (Dempsey, & Van Eck, 2002).

Multimedia use in online learning can contribute to creating a student centered learning environment (Hooper, et al., 2002). Computer oriented learning was based on the concept of drill and practice in the 1960s and 1970s. A trend away from behaviorist to more constructivist learning theories puts more emphasis on student experience and on learning environments where students have the resources to reach their learning goals. This includes interactive multimedia resources and documents. The multimedia format provides an opportunity for students to become more active in the learning process (Richards, Dooley, & Lindner, 2004).

From the above description it is clear that online distance education is the need of the day understanding various emerging complexities at macro and micro level but what is most important is to understand that online distance education and regular course should have common level of acceptance and quality and more importantly to understand the areas where ODL lacks whether it is technical factor or academic issue or any other factor. Another important area of attention is monitoring the consistency in the performance of the courses offered by these

bodies so that the learner and the teacher are connected and the acceptability, knowledge transfer, authenticity and the capability or learning outcomes are in line with that of regular stream to strengthen its popularity.

Thus, based on the above understanding the following objectives are been set for the descriptive study.

Objectives of the Study

a) To assess the scope of online distance education in India through available literature

b) To identify the gaps in ODL and their repercussions on educational development front

c) To identify different technological developments in ODL contributing to its success and widespread usage

d) To identify different strategies adopted for effective wide usage of ODL

Based on first objective which aimed at assessing the scope of online distance education in India through available literature Understanding the relevance of ODL and its wider scope with relevance to its popularity, demand and major share of students enrolled under different universities clubbed with various technological developments and advancement whether it is open source or varied tools available to make it more user friendly certain areas need attention which are indicative of developments and prospects in ODL are as follows-

a) Role of ODL in areas of developing concerns or upcoming infrastructure can be of great use if planned effectively which will increase both access, equity and availability of these resources with the help of ICT or OER (Open Education resources) in terms of access to education.

b) Another important area is focussing and meeting the Global standards of education along with adhering and making it useful for cross-cultural aspects, this will make teaching and learning in mediated global environments and the implications for wider professional development.

c) Focus is also required in terms of

developing a well-defined distance education delivery systems, the role / of institutional partnerships in developing transnational programmes, and the impact of ICT on the convergence of conventional education and distance education institutions.

d) Involvement of different professional associations in improving practices, conducting researches and improving knowledge transfer and thus overall practices should also be focussed.

e) Equal focus on improvising the copyright, IPR and legal issues should also be ascertained effectively. This requires monitoring with respect to organization, management and administration of different institutional policies and their improvement.

f) There should be deliberation on improving the cost and benefit analysis to make ODL more effective so that with immense usage of digital tools effective access digitally can be made for high access.

g) Focus should be on emerging trends in educational technology like Web 2.0 applications or mobile learning and the benefits and challenges of using OERs, media selection (e.g., synchronous vs. asynchronments media), technical infrastructure and equipment for online learning environments, and their opportunities for teaching and learning should be emphasized.

h) More emphasis to be given on innovation with respect to educational technology and other administrative aspects like staff incentive, workload distribution, promotion etc. can bring effective positive change. Also some emphasis should be on assessing competencies of teacher and matching it with education to be imparted on line for user's benefit.

i) Another avenue for development is improvising learner support services and related infrastructure for organisation of learner support systems should be developed so that enough information regarding counselling, e-resources, technical support, method to interact with experts, etc. can be widely used.

j) A very important factor that can widen the scope of distance education is acceptance and trustworthiness with respect to quality and accreditation of the university or body and the convenience it provides to the users.

k) Special emphasis is also required in pedagogical approaches for tutoring online (scaffolding), the design of (culturally appropriate) study material, opportunities provided by new developments in educational technology for teaching and learning

l) A very important factor that will decide the success of such ODL is instructional/ design considerations is course design that fosters (online) articulation, interaction, reflection, and collaboration throughout the learning and teaching process. Special areas include the development of online communities, gender differences, and cross-cultural aspects in online communication.

m) There is also a need to make the learning easy with respect to certain factors like how adult learners are different from other learners, the socio-economic background of distance education students, learning styles, critical thinking dispositions, and special needs. Thus, understanding these factors define immense scope for improvement and areas for development and wider application of ODL as a futuristic support system in Indian context.

The second objective aimed at identifying the gaps in ODL and their repercussions on educational development front. As it is a known fact from literature that Indian research in education began in 1943 that is more than fifteen years before the distance education program in the form of correspondence education began in 1962. During the last

48 years of its existence, it has expanded to cover more than 37,36,744 students attending more than hundred Dual Mode Universities and thirteen State Open Universities and one National Open University. Despite this wide development it is surprising to note that major researches in Distance Education are still few.

There are only a few superficial areas where researches in ODL have been conducted. The crucial areas that are very significant to everyone like changes required in andragogy and pedagogy. In distance education needs huge attention in research so that effective means can be developed to make it more effectual. Though it is quite evident that ODL has adopted a multi-channel learning format that includes print material, PCP, audio, radio, television, interactive television and Internet places ICT etc. Also it is surprising to note that there has been no study on the effect of multi-channel learning on distance education. Within the instructional process there are very few studies on electronic media.

An important area that has remained untouched with respect to research in ODL includes how to assess the learning outcomes through ODL because of which its effectiveness and impact cannot be measured. Also another important gap is there is no defined parameter for assessing the quality & benchmarks on setting excellence in ODL.

Also our Indian ODL mode lacks to a large extent on how to manage and organize with respect to organization structure of such institutions compared to open universities and dual mode universities as the status and type of all of them are different some of them being autonomous and others constituent colleges or departmental status. They are all different with respect to their financial viability, independence, flexibility, structure, decision making, governance etc.

There is another area that needs immediate attention is staff development and their effectiveness in distance education. Although STRIDE in IGNOU as well as some of the directorates of distance education have been conducting staff development programmes, research on the programmes is almost missing. According to one of the study conducted by Ramanujam (1999) on "STRIDE Training Programmes: Their Impact on the DOL systems in South Asia". Majority respondents found certain gaps like more focus is needed in terms of leadership, understanding, and strategic planning and equal focus should be development of both teaching and non-teaching staff, homogenous development of content and related technology to be utilized to make it more user friendly.

The third objective aimed at identifying different technological developments in ODL contributing to its success and widespread usage. From different studies conducted in distance education and online distance learning in different areas and offered by different open universities the major issue is in terms of quality of study material been prepared and lack of online tools been sued to make it more user-friendly. It was found through various studies that study material prepared and offered by IGNOU is highly been appreciated by teachers and practitioners as they focus highly on quality of study material and utilize the expertise of best experts in preparing the same. They also utilize ICT, multimedia, teleconferencing in providing instruction and counseling to distance learners and also provide training to course writers through seminar and workshops.

Also there is a need to create a balance with respect to cost benefit analysis of correspondence courses whose financial dependence is fully on the student fee compared to the regular streams though the areas of expenditure is similar in certain grounds and above all distance education as more economical in comparison to regular stream.

The fourth objective aimed at identifying different strategies adopted for effective wide usage of ODL, NIEPA, which is an Indian national institution on planning and management of education, has developed

a list of priority research areas in planning and management of distance education collectively with the directors of distance education departments of dual mode universities (Mukhopadhyay and Sujatha, 1991) which states the priorities as under. To begin with research should be undertaken to assess how far distance education has actually made education accessible. In India, about 10% of total enrolment in higher education is through distance education. This 10% is of the 6% of the age group 18-23 who join higher education. Further this 6% enrollment in higher education is actually 60% of those who are eligible to join higher education. Causes need to be explored. Similarly, on the equity dimension, research on learner's background indicate unequal gender ratio, rural urban ratio, employed-unemployed ratio economically viable-weaker section ratio, etc. Researchers are needed to assess causes of inequity and remedial measures.

In today's environment of technology online distance learning is amongst a preferred choice because of easily accessible, simple and highly effective tools whether it is m-learning, e-learning, audio, video, asynchronous or synchronous learning tools, web conferencing, e-learning 2.0, classroom 2.0, satellite method, webcam, whiteboard screen casting, virtual learning, e-classroom, LMS (Learning management system, Learning content management system, (LCMS), Electronic performance support system (EPSS) supported by computer aided system.

It is well understood that online learning can either be synchronous or asynchronous with the difference that synchronous method is of use when all the participants are available at one time which at times is a benefit wherein all the learners can interact and discuss thus making it more convenient and interactive whereas in case of asynchronous learning is self-paced and allows to involve in exchange of information thus independently involving in learning example of Synchronous learning are face to face discussion, online real time live teacher instruction and feedback,

conversation through skype, chat rooms, virtual classroom. Thus, this type of synchronized learning help in collaborative learning and help in creating open mind as students help in creating peer interaction and enhances online awareness.

Example of asynchronous learning such as email, blogs, wikis, discussion boards and web supported books, hypertexts, virtual operating rooms etc. Thus, these methods make ODL a preferred choice and easy option for learners.

Another method supporting ODL is Computer-based training (CBT) that enhances self-paced learning activities supported by computer or any tablet or smart phone. It is as easier as studying an online book or a manual. Computer-based training is also similar to web based training which is been delivered with internet or any web browser.

Method promoting and supporting e-learning is Computer-supported collaborative learning (CSCL) that uses instructional methods that helps in learning and working collaboratively by the students. CSCL uses blogs, wikis, and cloud-based document portals (such as Google Docs and Drop box). With the help of these method teachers, students can work collaboratively and can discuss ideas and can promote information.

Another well-developed tool is classroom 2.0 which refers to online multi-user virtual environments (MUVEs) that connect schools across geographical frontiers it is also called as "e-Twinning" or computer-supported collaborative learning (CSCL) that allows learners to communicate across geographical boundaries.

Another supportive tool enhancing usage of online learning is E-learning 2.0 which is a type of computer-supported collaborative learning (CSCL) system that developed along with web 2.0. This method is more useful as it focuses more on social learning with the usage of social software like such as blogs, wikis, and podcasts. Also are supportive many media tools nowadays like digital cameras, video cameras, interactive

whiteboard tools, document cameras, include blogs, collaborative software, e Portfolios, and virtual classrooms.

Also media is used widely by ODL modes like usage of YouTube, Teacher Tube, Skype, Adobe Connect, and webcams. Telecommuting can connect with speakers and other experts. The role of mobile devices such as clickers and smart phones can be used for interactive audience feedback.

Another very important tool is Electronic performance support system (EPSS) which is an integrated electronic environment that is available to and easily accessible by each employee and is structured to provide immediate, individualized online access to the full range of information, software, guidance, advice and assistance.

Similarly, Computer aided assessment also helps in assessing the learner's performance based on the content, course thus enabling learners to absorb content & develop concept and thus make basic understanding of subject. Another important tool in making ODL effective is LCMS which helps in editing content using the usable or reusable content and helping in hosting the content itself.
Similarly LMS is software that helps in delivering, tracking and managing training and education. For example, to track attendance, time on task, and student progress. Educators can post announcements, grade assignments, check on course activity, and participate in class discussions and also the learners can take quizzes, assignment on the same. E-learning authoring tools are software that are also very useful in enabling users to create courses, simulations, or other educational experiences and many such supporting tools like webcams, virtual classrooms, screen casting that enables users to share their screen from their browser and make the video available online thus other viewers can also stream it directly. Similarly whiteboards that helps in quick interaction where viewers can write or touch the screen these methods supported by software like in virtual classrooms like Go To Training, WebEx Training or Adobe Connect help in

providing feeling of real time connect thus making communication between instructor and the student very easy.

Findings and Outcomes of Study
From the above discussion the following observations can be made.

a) It is clear that relevance of ODL and its wider scope with relevance to its popularity, demand and major share of students enrolled under different universities clubbed with various technological developments and advancement whether it is open source or varied tools access, equity and availability of these resources with the help of ICT or OER (Open Education Resources) in terms of access to education.

b) IT is important for ODL for meeting the Global standards of education along with adhering and making it useful for cross-cultural aspects.

c) Focus is also required in terms of developing a well-defined distance education delivery systems, the role / of institutional partnerships in developing transnational programs.

d) A well planned strategy for effectual development and expert involvement to make ODL quality centered is of prime importance.

e) Improving learner support service is of great importance.

f) Right pedagogical approach and selection of support tools for effective learning with well-developed IT infrastructure is of great relevance.

g) Understanding the background and specific requirement of the learner through effective servicing is very important as due to geographical constraint supporting technically and enhancing the accessibility is very important.

h) Lot of research is required on factors

affecting the learning of students through ODL and role of technical support system in it.

i) The selection and application of right tool is of great importance right from webcam to online tutorial class, web conferencing or EPSS, LMS, LCMS etc.

j) The role of staff development in ODL mode also needs attention. More and more support for collaborative learning is a must, thus learning through classroom 2.0 is a must.

k) Use of different software and tools right from tutoring to assessment is of great importance.

l) Overall, it is important to say that ODL serves multi-purposes specially for all those prospects who due to various reasons cannot enroll for regular courses and if these course quality are monitored and is managed overall as in TQM it is quite imperative that it will benefit a large mass of society across boundaries thus enhancing education and professionalism and also help in improving quality and widespread availability of education across physical barriers.

Conclusion

Thus, it can be said that by witnessing the rapid diversification in distance education or open university system country wide it is the time when researchers, policy makers, thinkers, should explore, compare with global standards and level and chalk out strategies to improvise with effective policy formulation and implementation for effectual development of ODL.

Today a majority chunk of students seek education at a distance and major issue before everyone is to ensure that appropriate measure are taken with respect to allocation of staff time, resources and academic freedom to undertake both systemic and discipline-based research and also ensure that growth of ODL is a discipline in itself and the career prospects will be same as in physical classroom environment .The scope learning through distance mode has vast potentiality to expand, influence and sustain, but it depends on how and to what extent this is understood and taken care by different policy makers, educationalist and other concerned authorities.

Thus based on the above discussion if these measures are been taken and new insights are developed on the basis of identified gaps then it will be easier to open vistas for ODL and its acceptance not only in perception of common man but also in practice thus giving it the same cadre as other mode of education occupies. Research in distance education would not only establish and enhance the theory of distance education, but also significantly contribute to its practices

Implications of Study

From the above study, it is quite clear that online distance education is the trend and need of the of the day and it is thus very important to understand and improvise the factor that can help in strengthening the role ODL can play in improvising the level of education. It is important to develop different tutorial tools and IT infrastructure in order to make ODL an educational supportive tool for growth and development. It is important that a proper monitoring mechanism is important to assess and improve the quality, accessibility and the infrastructural support so that in real terms the effectiveness of ODL can be structured as per need. The present study has focussed on different tools that can help in making ODL a re-inventive approach towards scaling up quality of education.

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