Indian Journal
of
Distance Education

University School of Open Learning

Panjab University Chandigarh (INDIA)

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The array of multiplicity of firsts to the count of University School of Open Learning also includes the Indian Journal of Distance Education - India's pioneer journal exclusively dedicated to distance education. It was conceived in 1987 by Professor S. Bhatnagar, an ardent distance educator from the then Directorate of Correspondence Courses (now known as USOL). Over the three decades, the journal has witnessed changing contours of education, in general and that of open and distance education in particular. The journal has witnessed the technological interface that has transformed 'correspondence education' to an e-education, and then to 'open education' governed by buzz words like OER, OCW and MOOCs. Notably, the journal has been blessed with the contributions from some of India's pioneer leaders in distance education, including Dr. Bakshish Singh, Dr. Ruddar Datt and Dr. Inayat Khan, to name a few.

I am pleased to sign for the twelfth issue of the journal. It is having over a dozen of research papers concerning various aspects of open and distance education and addressing some contemporary issues related with the system of distance education such as studying habits of distance learners, ICT and MOOCS, enhancing literacy though ODL, teacher education trough distance learner and ethical consideration of distance learning etc.

I am sure that all these papers will give new sight to the learner, researchers, teachers and educationists. I am grateful to all the research scholars and faculty members of USOL who have contributed to the Indian Journal of Distance Education. My heartiest complements to the members of editorial board who have worked hard for the publication of this journal. I am sure this journey will continue with the help of educationist and researchers in the years to come to strengthen the source of knowledge.

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Editorial

Evolutions are slow, steady and perennial. Revolutions are swift, disruptive and transient. Apparently both seem to be mutually exclusive but the twain seems to have essayed concurrently in the education- expanse, especially in the ODL zone. Called *"Correspondence Education"* in its early phase, in the beginning of the previous century, this unconventional form of education, characterized by its all embracing spirit, steadily evolved, widely expanded and candidly espoused new technological paradigms. Today, it has engendered cutting edge ICT innovations and learner centered paradigms. Adequately served by the new age Digital technologies, including the game changer Internet, ODL has rightly positioned itself to address the complex global challenges to equip the 21st Century learner with new desirable competencies and skills, build collaborative content development network and deliver optimal learning experiences. ODL today is much better braced to cater to diverse skill capabilities, offer cost effective yet quality learning experiences and even give due weightage to the desirable social presence considerations. All this has helped ODL graduate to an indispensable stature in education- edifice world over, more so closer home. Globalization and the fast changing socio-economic trends, including a shift to service oriented economy has necessitated a surge in demand for skilled manpower of a different kind. Moreover, the governments world over and particularly in the developing world are striving for providing education for the masses and upgrading the quality and productivity of their human resources. All this has led to a further boost in the number of new learners. The newer trends, including MOOCs —Swayam/e-pathsala are indicative of the vibrant scenario. ODL has not only secured a comfortable position *vis-a-vis* the conventional system of education but at the same time it is also posing serious challenges to the latter. This elevated status of ODL would not have been possible without the diverse research work in various aspects of Distance Education. A good number of researchers have been striving over the years to enrich the discipline and to make it more user friendly through ever evolving multimedia applications.

The Indian Journal of Distance Education (IJDE) during the last over three decades has been bringing out research papers and scholarly articles in the field of ODL. The current issue of this peer reviewed journal is twelveth in the series which carries a dozen papers besides some other features.

The Massive Open Online Courses (MOOCs) is the latest development in the evolution of ODL. Thriving on the online learning with the option of free and publicly shared curriculum MOOCs integrate social networking and encourages participative learning. The opening paper by Jeesu Jaskaran Singh, M.M.Pant and Swinder Singh focuses on various aspects of MOOCs. Through its in-depth analysis, the paper throws light on latest innovations, flexibilities, perceptible impact and some sweet promises. Close to the same area Harsh Gandhar and Vandana Saini have focused on harnessing the ICT for the successful operation of MOOCs and have attempted to evaluate some

other ongoing projects and map their challenges. The authors have looked into the positive pedagogic outcomes of integration of ICT in Distance Education and have examined at length its adoption in a developing country like India. The article also highlights some barriers and the problems which dissuade its general adoption and impact.

Focusing on the study - habits of distance learners, Ravneet Kaur has analysed various roles to be played by the distance learners, their expectations and usage of different media of DE. Her study reveals changing habits of DE learners and suggests periodic surveys to get regular feedback. Mamta Garg in her research paper has tried to explore the factors which influence the performance of learners. In her study she has focused on selected demographic characteristics of distance learners and has found that married, working and mature students scored better in exams as compared to younger ones, non-working and unmarried ones.

In the field of mobile learning, Manju Gera and Sanju Verma have examined the role of modern gadgets and their varied usage as a mode of informal and flexible learning. Prabha Vig and Komal Sharma have drawn the attention of DE scholars towards the effect of gender on novelty and creative dimension of Distance Educators. After examining as much as 300 male and female teachers, they found a significant difference in the creative traits of their personality.

Teachers provide a solid base to any education system. Their quality is of vital significance to raise the level of education system of any country. This necessitates a comprehensive planning for their training in which DE plays a vital role. Supreet Kaur has focused on teacher education through distance learning mode and discusses the challenges and hurdles in the domain. Ram Mehar looked in to the role of DE in raising the literacy rate from historical perspective. He has supported his observations with relevant data and some official documents issued by MHRD and UGC. Examining the significance and challenges of DE, Manju Ghera and Maninderpal Singh have stressed the need for skill upgradation. They have also analysed some of the new opportunities brought forward by the application of ICT.

Learning outcomes of the students is a singnificant dimension of any education system towards the sustainability and growth. Kanwalpreet Kaur and Jatinder Grover have come out with their paper on the basis of a study of over four thousand primary students on the four defined parameters of BaLA. The authors have indicated significant results which may also be relied upon by those invoved in distance education or non-formal system of education. The authors have also put forward some very valuable suggestions.

Meenakshi Madaan has briefly examined the development of DE in some selected countries such as UK, USA, Thailand, Pakistan and India. Focusing on the changing trends the paper indicates the growing significance of DE in developed countries as well as in developing countries. For the ODL certain regulatory aspects have always been there for the DE institutions. In their paper Seema Jagpal and Swinder Singh have made an overview of select international bodies and some Indian regulatory bodies which are involved in issuing guidelines and directions from time to time.

This issue would seem to draw an unconventional inspiration from a mythological figure- Janus, a two headed human god endowed with the capacity to move back and forth in time. From his frontal head the human god envisions the future and from his rear head he can revisit the past. This issue makes an endeavour to live the same spirit by juxtapositioning two perspectives. While most of the contributors of this issue seem to envision the future Prof. Bakshish Singh's article- retrieved from our classic- annals, gives us a glimpse in to the rich past of DE. We are glad to learn that DE has in fact seen a metamorphosis of sorts but it is also interesting to learn that many of the challenges envisioned then still need to be adequately addressed. This new feature of revisiting our past is here to stay and from the forthcoming issues our discerning readers will have yet one more reason to refer to IJDE.

This issue of IJDE also carries the views expressed by Mr. Ashok Thakur, former Secretary, MHRD, as a convocation address for USOL students in the year 2015 — "ODL and Revisioning of Higher Education in India".

Bringing an issue is really like setting on a new journey. Journey it definitely was and I was privileged to have quite a few friends who really walked along. Besides my editorial board some of my USOL colleagues really helped me in giving this issue a good shape. However I cannot resist acknowledging some commendable assistance which I received from Prof. Kuldip Puri and Mr. Sudhir Baweja.

IJDE would very much welcome your valuable suggestions and observations. This issue would do its job well if some of the issues raised by competent contributors trigger some fruitful debates.

Editor
Swinder Singh
USOL, Panjab University, Chandigarh

Massive Online Open Courses (MOOCs) - A Quantum Leap for ODL

Jeesu Jaskanwar Singh, M.M. Pant and Swinder Singh

Abstract

The present paper shares the journey of distance education and new avenues opened by the MOOC. The Information Communication Technology (ICT) is changing the delivery and pedagogy of distance education. MOOCs can emerge as an important tool to bring education to the students left out in the traditional system of education. MOOC platforms, NPTEL (National Programme on Technology Enhanced Learning) are already in use for promotion of higher technical education. Robotics and artificial intelligence are bringing new challenges and opportunities in modern life. New skills are required to be learned in the present era of the fourth industrial revolution. If education is not in sync with technology it will lead to inequality. The modern-day workers require new skills to stay relevant as innovations arrive. If the large workforce in the society is not equipped with new skills, workers lag in job markets and it may lead to various socio-economic problems Millennium development goals and Sustainable development goals had stressed the need for empowering and skilling the human resources with the quality education. Digital technology in education and MOOCs can help to reach the diverse population in the remotest corner of our planet. MOOCs can provide the affordability, accessibility and inclusiveness for the large trainable youth population.

1. The Scenario of Open and Distance Learning (ODL) in India

Open and Distance Learning (ODL) system provide quality education and flexibility in terms of admission criteria, modalities and timing of teaching and learning. ODL provides quality continuing education and skill up-gradation to learners from educationally disadvantageous locations and in-service personnel. The **institutions providing ODL services in India** consists Open Universities (National and State), Institutions and Universities offering education and includes Correspondence Course Institutes (CCIs) in conventional dual mode universities (MHRD, 2017). University Grants Commission (UGC) presently controls and manages the ODL system in India. Previously, Distance Education Council (DEC) of the IGNOU managed the ODL system in India (MHRD, 2017).

Table 1 gives a summary of the above institutions providing ODL services in India (MHRD, 2017).

ODL system in India			
1.	2.	3.	4.
Indira Gandhi National Open University (IGNOU)	Total 13 State Open Universities (SOUs)	Commonwealth of Learning (COL)	Institutions and Universities offering education and managed by Government and private sectors.

India and China stand at second and first place respectively in terms of the largest Distance Education (DE) systems in the world. The Open University (OU) in the UK which was established in 1969 inspired the Open University of China (OUC) and the IGNOU, in China and India respectively. These universities are providing access to quality higher education using distance education and follow liberal admissions policies for admission. The success of the distance education programmes of OUC and IGNOU can be gauged from the approximately four million students currently enrolled in each University (Perris, 2015).

The major educational institutions providing distance education in India can be listed as follows:

i)   Indira Gandhi National Open University (IGNOU): IGNOU is known for flexibility and open system of schooling with respect to learning methodology, place of learning, permutation of courses, eligibility criteria for enrolment, age limit, and evaluation procedure, etc. IGNOU uses integrated strategy for imparting education which includes scientifically designed print materials (in self-learning mode), audio-video, tapes, broadcast on radio (Gyan Vani) and educational TV Channels, teleconferencing, video conferencing and also the face to face counselling sessions at its study centres located across the country. For evaluation of the performance of its students enrolled in various subjects, IGNOU goes for continuous assessment and term-end examination (MHRD, 2016a).

ii) State Open Universities (SOUs): There are 13 SOUs established in India providing education only in the distance mode (Table 2). These universities offer educational opportunities learners who are already employed and to learner's who cannot take admission in regular courses due to various reasons. (MHRD, 2016b).

iii) Commonwealth of Learning (COL): In the year 1988, COL an intergovernmental organization (headquartered in Vancouver, Canada), was established through a Memorandum of Understanding between Governments of Commonwealth countries. The mission of COL is to support the expansion and contribution of open learning/

distance education information, resources, and technologies. In the developing countries, it is working to improve the access to quality education and training. It is the sole intergovernmental organization committed to promoting and delivering distance education and open learning. COL is working in the field of instructional materials, telecommunication technology, and training and information service. Educational Media Center for Asia (CEMCA) is the COL's venture located in India. Figure 1 shows the logo of COL University whereas figure 2 gives an overview of the distribution of COLs throughout the world (MHRD, 2016c).

iv) <u>Institutions and Universities</u>: There are various private and government Institutions and Universities in different states of India offering education and includes Correspondence Course Institutes (CCI) in conventional dual mode universities. (MHRD, 2016 a).

The list of various State Open Universities in India is mentioned in table no. 2.

Table No. 2. The table enlisting India's State Open Universities (SOUs) and their year of establishment (MHRD, 2016b).

	Name of the SOU	Established in year
a.	Dr. B.R. Ambedkar Open University (BRAOU), Hyderabad, A.P.	1982
b.	Vardhman Mahaveer Open University (VMOU), Kota, Rajasthan	1987
c.	Nalanda Open University (NOU). Patna, Bihar	1987
d.	Yashwantrao Chavan Maharashtra Open University (YCMOU), Nashik, Maharashtra	1989
e.	Madhya Pradesh Bhoj Open University (MPBOU), Bhopal, M.P.	1991
f.	Dr. Babasaheb Ambedkar Open University (BAOU), Ahmedabad, Gujarat	1994
g.	Karnataka State Open University (KSOU), Mysore, Karnataka – (1996)	1996
h.	Netaji Subhas Open University (NSOU), Kolkata, W.B.	1997
i.	U.P. Rajarshi Tandon Open University (UPRTOU), Allahabad, U.P. - (1998)	1998
j.	Tamil Nadu Open University (TNOU), Chennai, Tamil Nadu	2002
k.	Pt. Sunderlal Sharma Open University (PSSOU), Bilaspur, Chhattisgarh	2005

l.	Uttarakhand Open University, Haldwani, Distt. Nainitall, Uttarakhand	2005
m.	Krishna Kanta Handique State Open University, Guwahati, Assam	2005

Figure No. 1. The logo of Commonwealth of Learning (COL) (COL, 2018).

Figure No. 2. The status of Commonwealth Open Universities (Kanwar, 2013)

2.   Distance Education and role of letters in building a bond between teacher and learner
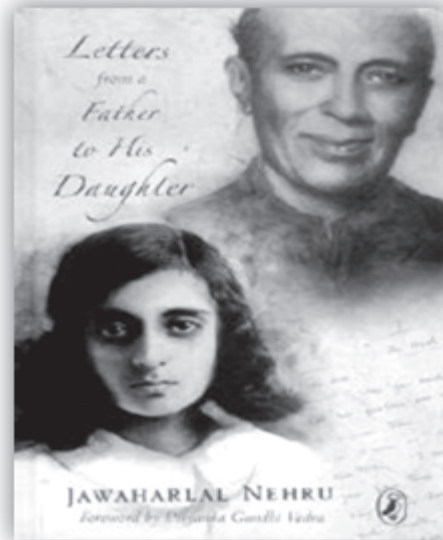

Figure No. 3. The cover page of the book "Letters from a father to his daughter" (The Hindu, 2005).

The process of teaching-learning by providing study material and letters was one of the great instruments in distance education in the pre-internet era. The distance education departments were called correspondence education departments as the study material was shared with help of postal department.

A very good example of distance education in 'history and world civilizations' includes the letters written by the Pandit Jawaharlal Nehru to her daughter Indira in the summer of 1928 when she was in the Himalayas at Mussoorie.These Letters taught her about evolution of great civilizations, geology, fossils, religion, India, China, Egypt, etc. These letters were later published in the form of a book as ' Letters from a Father to his daughter' a set of 30 letters from Pt. Nehru to Indira Gandhi (Nehru, 1929) (see Figure No. 3).

The letter to Prof. M.M. Pant written by Richard P. Feynman (received Nobel Prize in Physics for his work in quantum electrodynamics) shown in figure no. 4 is another example of the correspondence between the teacher and the student. In his letter, Dr. Feynman has addressed Mr. Pant as a 'pen student'. The letter clearly shows that these letters were responsible for building a better contact between the pupil and the teacher and also facilitate dissemination of knowledge across borders. This letter was later published in the book "Perfectly Reasonable Deviations from the Beaten Track" in the year 2009 (In the Business of Thinking & Pant, 2009).
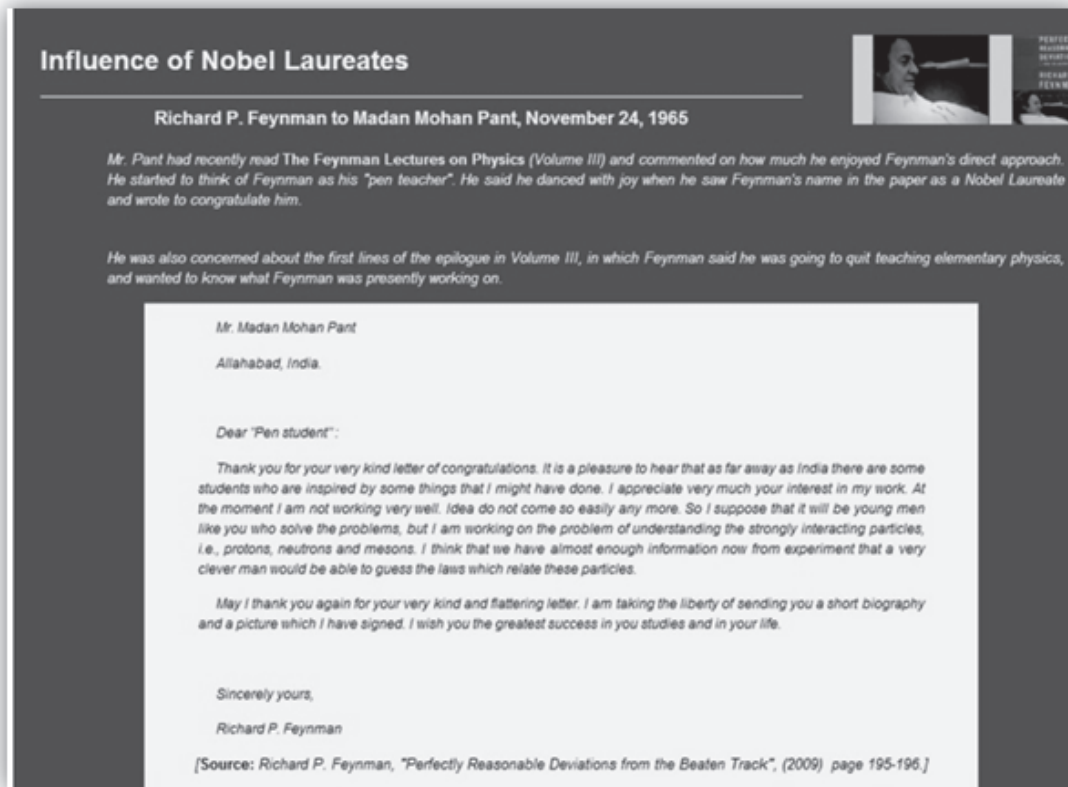
Figure No. 4. Screenshot showing the correspondence between a pen student Prof. M.M. Pant and Nobel Laureate Richard P. Feynman (In the Business of Thinking & Pant, 2009).

3.   Emergence and journey of MOOC's

Massive open online courses (MOOCs) are a relatively new learning trend as compared to traditional Open and Distance learning courses. MOOC provides an amalgamation of eLearning and open education opportunities. As the internet facility is expanding across the world and a large number of students can have access to affordable communication and social networking. MOOCs can catalyze and revolutionize the societal and technological development of personalized learning environment across the world. (Levy, 2011). The term MOOC originated in Canada. In the year 2008, to describe an open online course called Connectivism and Connective Knowledge (CCK08) at the University of Manitoba, the acronym MOOC was used (Figure 5). The CCK08 course was planned by George Siemens and Stephen Downes. (Taylor, 2013; Siemens, 2013). Since the first MOOC course in 2008, it has been at the crucial point of all the stakeholders of higher education institutions.
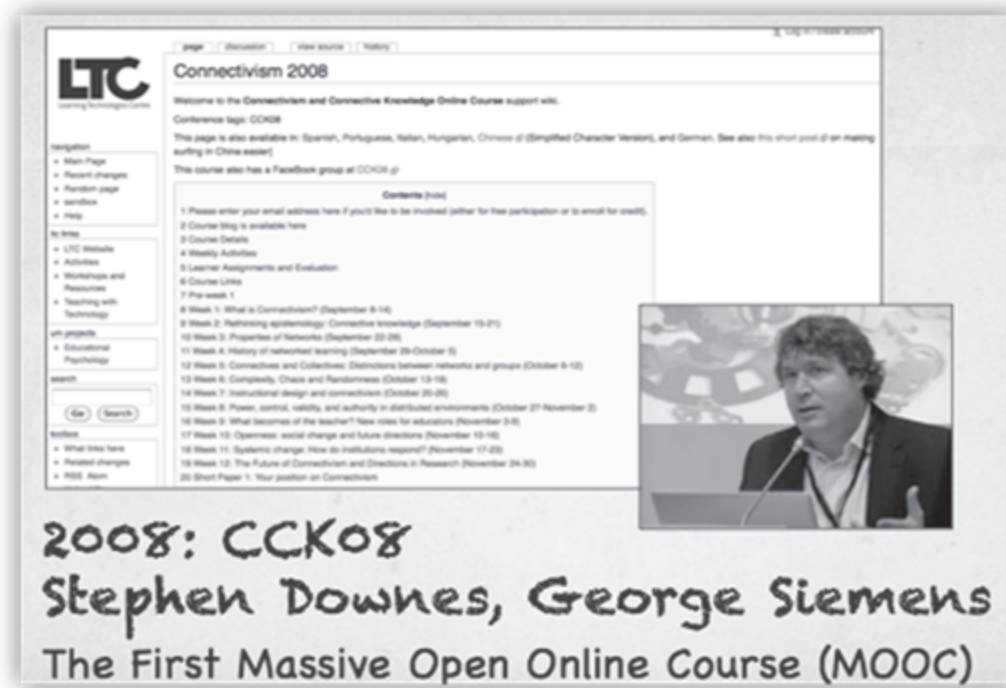
Figure No. 5. Screenshot showing the first MOOC started at University of Manitoba in the year 2008 (The MOOC Guide, 2011).

MOOCs are free and are planned for extremely large numbers of students having an internet connection. The students can access the course material according to their convenience of time and place through the internet. Anyone can take admission in MOOC as it does not have entry qualifications (OpenupEd, 2013). Table 3 and figure 6 give an overview of the early MOOCs and their development over the course of time.

A unique methodology for CCK08 (the first MOOC) was adopted by the authors. They used content aggregation tool to aggregate all the content in one place. The students undertaking the course were encouraged to develop blogs and to contribute to distributed resource network. The authors took out a daily newsletter having aggregated content, events and discussion and disseminated, to the enrolled students (Pant, 2017).

With the revolution in e-content and Internet, educational experiences through instructional material (multimedia, radio, television) can be disseminated across multiple networks and go beyond learning structures, and instructional applications. The new field of learning provides an opportunity to conduct college-level courses and schooling beyond conventional university and colleges (Levy, 2011). Moreover, the large number of students having limited access to traditional college courses acquires college-level skills, knowledge and learning through MOOCs (Marshall, 2013).

Table No. 3. The table showing the pioneer MOOCs, their facilitators and status of University credits (Siemens, 2013).

| EARLY MOOCs		
Course	Facilitators	University credit provided
Connectivism and Connective Knowledge 2008	George Siemens and Stephen Downes	Yes
Connectivism and Connective Knowledge 2009	George Siemens and Stephen Downes	Yes
Personal Learning Environments and Knowledge 2010 (PLENK)	George Siemens , Stephen Downes, Dave Cormier, R. Kop	No
Education Futures 2010	George Siemens, Dave Cormier	No
Critical Literacies 2009	Stephen Downes, Dave Cormier, R. Kop	No
MobiMOOC 2010	Inge de Waard	No
Learning Analytics 2011	George Siemens, Dron, Dave Cormier, Elias	No
Connectivism and Connective Knowledge 2011	George Siemens and Stephen Downes	Yes
EduMOOC,2011	Schroeder	Yes
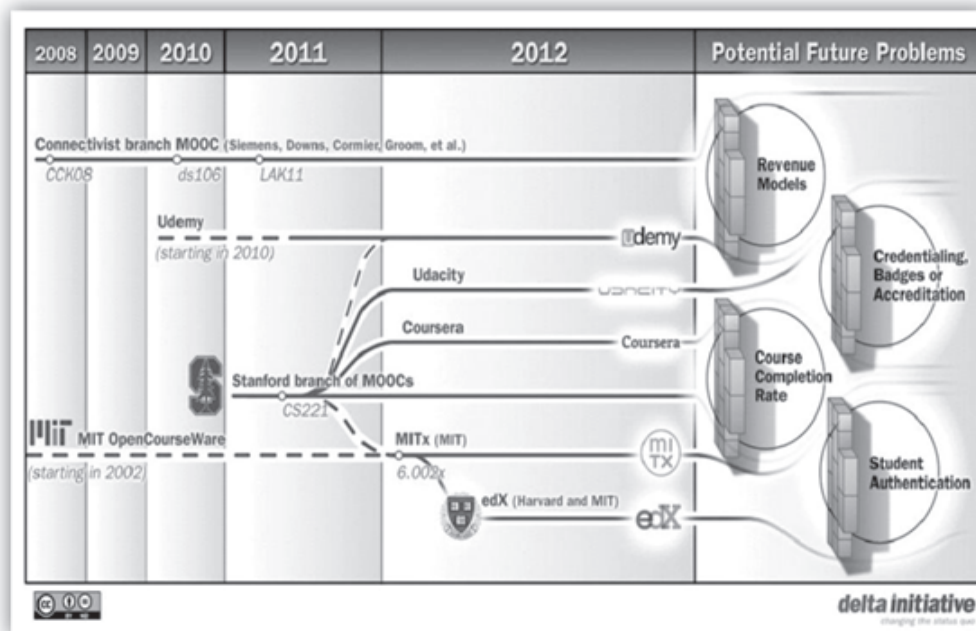
Figure No. 6. The figure provides a timeline representation of MOOC models and early providers (Hill 2012; Siemens, 2013 a).

The Table 4 gives a comparative overview of the traditional online courses, OCW and MOOCs.

Table No. 4. The table compares the characteristics and features of Traditional Online Courses, OpenCourseWare (OCW) and Massive Open Online Courses (MOOCs) (Pappanonov, 2012 and BCcampus, & Anggraeni, 2013).

	Traditional Online Courses	OCW	MOOC
Characteristics	consists of written materials/e-content or video content of lectures	The OCW consists of e-content, written materials or video lectures. It makes the students experience as if they're attending the class sitting at the back of the classroom.	Scientifically designed based on the various principles of pedagogy and needs of the learner. They are specially designed with element of interactivity. They encourage collaborations (in form of study groups, or online forums) and brainstorming between students.
Content delivery	A major portion of the E-content prescribed in the curriculum, available on payment.	Available free of cost on the Internet (YouTube Channels/ Website, etc.)	The content is provided in small parts in form of audio, video, animations or text.
Feedback/ Evaluation/ Exams.	The homework, activities and final exam are part of Traditional Online Courses The feedback in Traditional Online Courses is in electronic form and the discussions boards may be monitored by the teaching assistants.	Self-learning is involved It is a source of reference for the learners. It is difficult to have an assessment of learning for the learners who access digital OERs.	The evaluation is done with quiz or test after completion of small learning units to gauge the level of learning acquired by the students. The feedback is in electronic form and the discussions boards (may be monitored by the teaching assistants) The homework, activities and final exam are part of MOOC
Fee	Fee charged	No Fee is charged	is usually free
Carry Credit	Carry credit	Not applicable	Usually credit-less Some have credits
Admission and interaction between learner and instructors.	Admit a limited number of students to ensure interaction with the instructors.	Not applicable	Any learner with an Internet connection can enroll, but it is difficult for the faculty to respond to students individually.

4.   MOOC Taxonomies:

According to Siemens (2013), MOOC models are evolving quickly. In their current configuration, they can be classified as xMOOCs, cMOOCs and quasi-MOOCs. Figure 7 shows the legend of various MOOCs taxonomies.

Figure No. 7. The figure depicting various MOOC formats (MIT Open Course Ware, 2014; Khan Academy, 2015)

a)   xMOOCs: The model relating to xMOOC is characteristically more structured and as a result less open to learner sovereignty in aggregating and filtering resources, use of learner-selected tools, and forms of appraisal (Kennedy, 2014).

b)   cMOOCs: The model relating to cMOOC is characterized by openness of information flow. The additional characteristics of cMOOC are self-organization, connectedness, complexity, and chaos. It is a self-organizing complex system and eager to transform (deWaard et al., 2011). Open and distance learning initiatives are mostly based on cMOOCs. The cMOOCs are based on (a) open software and technology and open for educational purposes; (b) open educational resources and open content; and (c) open knowledge in which learners and experts openly share learning practices (Fini, 2009). Figure No. 8 illustrates the technical elements involved in cMOOC platform.
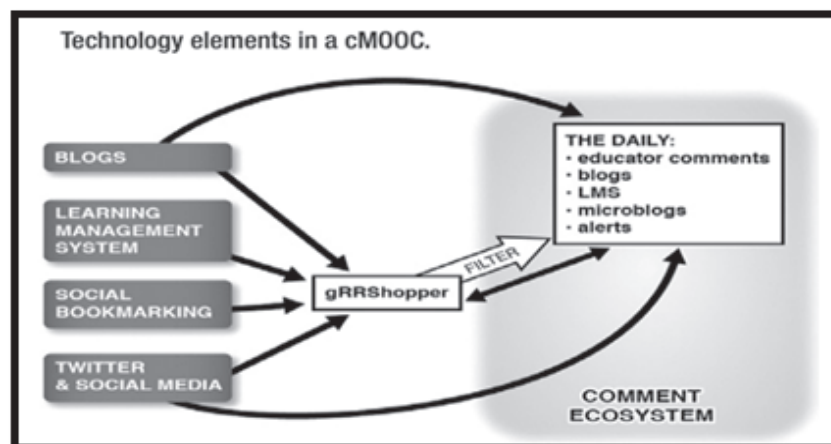

Figure No. 8. The technology involved in cMOOC platform (Siemens, 2013 a).

c)   quasi-MOOCs: The third variant that provides web-based materials as open educational resources (OER) is called quasi-MOOC. Quasi-MOOC supports definite learning tasks and does little or no social interaction or grading, and a representative model is Khan Academy (McGreal et al., 2013).

Table 5 outlines various characteristic features of different MOOCs taxonomies whereas table 6 gives a comparison of xMOOCS and cMOOCs.

Table No. 5. The table depicting characteristics of cMOOC, xMOOC and quasi-MOOCs (Siemens, 2013)

xMOOC	
Model	Offered in a conventional university model.
Origin	In 2011, Stanford University started a course in Artificial Intelligence based on the xMOOC model.
Pedagogical model	"Teacher is considered as an expert" and "student is considered as an information consumer."
Evaluation/ Grading	The assignments are evaluated and graded with the help of computer keeping in mind the large number of students a pursuing course in xMOOCs.
Feedback to students	i. There is usually no direct feedback from the teacher. ii. **Online discussion forums:** online discussion forums are moderated by the Teaching assistants and the course tutor. They respond to queries of the students through online discussion forums iii. **Regional Meet-Ups**: The local meet-ups to bond with other learners are suggested by some MOOC providers (e.g. Coursera and Udacity)
xMOOC providers	Traditional universities, including Ivy league Universities in the USA, are the driving force behind this model.

	University / Organisation	xMOOC
i.	Stanford University, California, USA	Coursera
ii.	MIT (Massachusetts Institute of Technology), USA / Harvard University, USA	edX
iii.	Udacity.	Udacity

cMOOC	
Model	• cMOOCs focus on the Connectivist educational model. The knowledge is considered as a networked state. The learning is considered as the process of generating networks. • Flipped Classroom.
Origin	The University of Manitoba started cMOOC format in 2008 through course in Connectivism and Connective Knowledge (CCK08). The course was designed by George Siemens and Stephen Downes.
Pedagogical model	i. The cMOOCs considers the knowledge as generative. More stress is given on the associations across a network before pre-defined educational content. ii. Artifact creation is given weight as a means of sharing a personal understanding for others to connect to and with. iii. For learners, cMOOCs are flexible and open in terms of the educational activities they follow linked to the subject matter, by way of limited structure and weekly themes.

quasi-MOOC	
Model	It offers Open educational resources (OER) in form of Internet-based tutorials
quasi-MOOC providers	Khan Academy, MIT's OpenCourseWare (OCW), The Saylor Foundation, etc.
Pedagogical model	i. These are in principle, not courses. ii. Learning-specific tasks are carried out with Open educational resources (OER). These resources are slackly related and are not packaged as a course. iii. quasi-MOOC are considered as asynchronous learning resources

Table No. 6. The table depicting characteristics of cMOOC and xMOOC (Epelboin, 2014).

	cMOOC	xMOOC
Learning model	Connectivist	Classic
Objectives	Build by participants	Build by teacher
Coherence	Participant	Teacher
Learning	Navigate, build connections	Follow the course
Resources	Aggregation by participants	Included in course
Exchanges among pairs	Very important	Possible
Interaction	Distributed	Forum on site

The progress of extended MOOCs, or xMOOCs is due to the success of cMOOCs. The good response to MOOCs encouraged several commercial, non-profit organizations as well as countries to offer MOOCs (Daniel, 2012). Some of the MOOC initiatives are: Udacity, Udemy, EdX, FutureLearn, J-MOOCs, OpenupEd. UDACITY is also offering nano MOOCs (specialized up skill courses of short durations) with participants getting nano degrees. The screenshot of UDACITY in Figure 09 shows the Nanodegree programs offered by them.
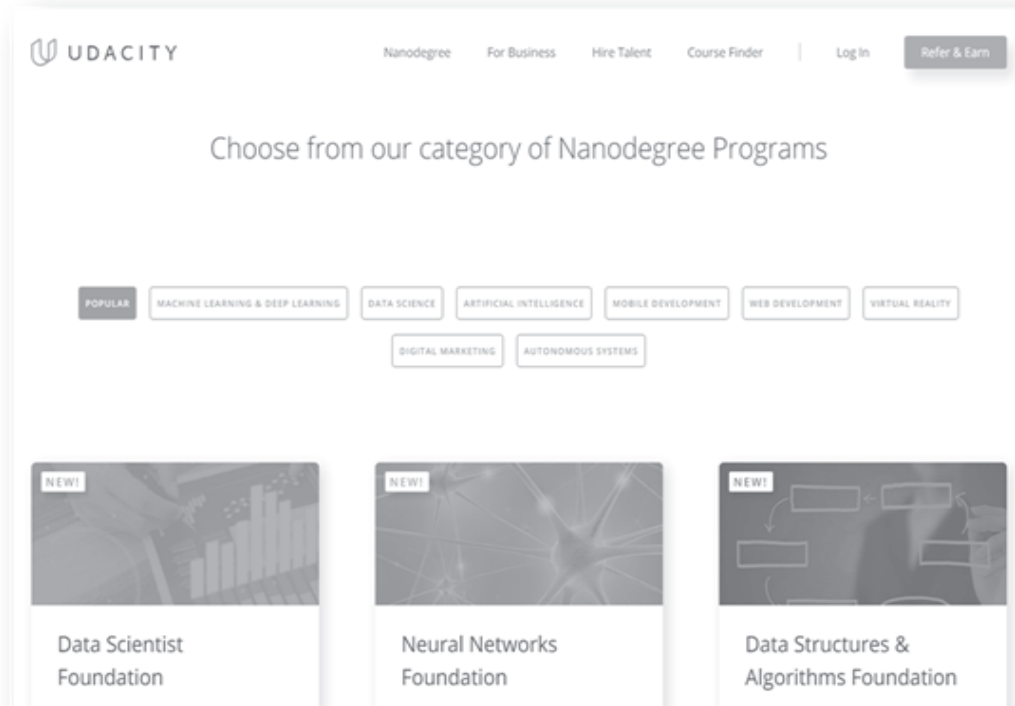
Figure No 9. The screenshot of UDACITY showing the Nanodegree Programs offered on their website. (Udacity, 2018).

5. First MOOC in India

The first MOOC of India was "The MOOC Primer" which was conceptualized by Prof. M. M. Pant and was inaugurated on 9th August 2013 (Figures 10 & 11). It was a free course. The duration of this online course was 4 weeks. It was designed to provide awareness about MOOCs and to equip for efficient learning from MOOCs. Capacity building of the learner and teacher in developing and delivering MOOC in the area of their interest and expertise was one of the objectives of this course.

Figure No. 10. The photograph showing the seminar titled Transforming Indian Education with MOOCs held at Delhi on 9th August 2013. The deliberations and panel discussions relating to implementation of MOOCs in India were held during the seminar (ETMA, 2013).

Figure No. 11. The screenshot showing the beginning of India's first MOOC by Prof. M.M. Pant, in the year 2013 (Pant, 2013).

'The MOOC Primer' was divided into four modules and these modules took one-week duration for learning. Each module was planned to be completed in 4-5 hours (approximately), depending on the ability and commitment of learner accessing the online content of the course. Each module contained Introductory Text-based materials, Introductory Video, Lecture Presentations, Blog posts for learning materials, tweets by the author, links to relevant resources and suggested activities.

The learner got the option to get certification from Qualifications and Assessments International (QAI), UK, upon completion of the course assignment. A fee of USD 15.00 was charged to providing the certificate (Pant, 2013). Table 7 gives an overview of various modules of the "The MOOC Primer" along with their brief descriptions.

Table No. 7. India's 1ˢᵗ MOOC titled "The MOOC Primer": Overview of various modules and their brief descriptions (Pant, 2013).

India's 1ˢᵗ MOOC :The MOOC Primer				
S.No.	Module No	Module Name	No. of session	Brief description of the module
1	MM100	Quiz on MOOCs	1	It contained basic quiz on MOOCs to check current knowledge about MOOCs.
2	MM101	The Nuts and Bolts of MOOCs	5	It briefed all about MOOCs. It covered the story of MOOCs, Technology platform, criticism of MOOCs, MOOCs in various parts of the world and Designing a classroom for a large number of learners.
3	MM102	Learning from MOOCs	5	It discussed how to select a right MOOC and kind of learning opportunities it provides. Besides that, it shed light on Skills required, and Recognitions for MOOC.
4	MM103	Effective Teaching with MOOCs	5	It discussed the Instructional design, steps to launch a MOOC, steps to Monitor and measure progress and roadmap for becoming a 'Rockstar teacher' with MOOCs.
5	MM104	MOOCs and Education Provider	5	It discussed the policies, disruptive innovation, various Business models, plan to roll out a MOOC and beyond MOOCs.
6	MM105	Certification	1	The last module contained assignment and assessment for receiving certification from Qualifications and Assessments International, UK

6.   Study Webs of Active Learning for Young Aspiring Minds (SWAYAM):

The Government of India's project 'Study Webs of Active Learning for Young Aspiring Minds (SWAYAM) (Figure 12). It is intended to accomplish the three key principles of Education Policy viz., access, equity, and quality. SWAYAM platform was developed by MHRD and All India Council for Technical Education (AICTE) with the help of Microsoft to

provide access to the finest quality educational resources across the nation to all, including the most underprivileged. The vision of this platform is to host 2000 courses (school, undergraduate, post-graduate, engineering, law and other professional courses) and 80000 hours of learning. It seeks to bridge the digital divide for students who have until now remained untouched by the digital revolution and could not join the mainstream of the knowledge economy (MHRD, 2018).

Distance Learning via Massive Online Open courses (MOOCs)

Figure No.12. Logo of SWAYAM (MHRD, 2018).

Information and communication technology (ICT) is used by SWAYAM. It provides an integrated platform and portal for online courses from high school, college, and University level to and vocational courses.

The SWAYAM platform was envisioned with the following objectives:

i)   To provide comprehensive web and mobile-based interactive e-content for all courses from High School to University level (see Figure No. 13).

ii) Using multimedia providing quality educational experience irrespective of time and place.

iii) Using the latest innovative cutting-edge technologies in ICT giving easy access to educational content, monitoring the progress of learner and certification.

iv) To provide peer group interaction and discussion forum used by learners enrolled in the course to clarify doubts.

v)   For quality classroom teaching SWAYAM platform used as a hybrid model of delivery (MHRD, 2015).
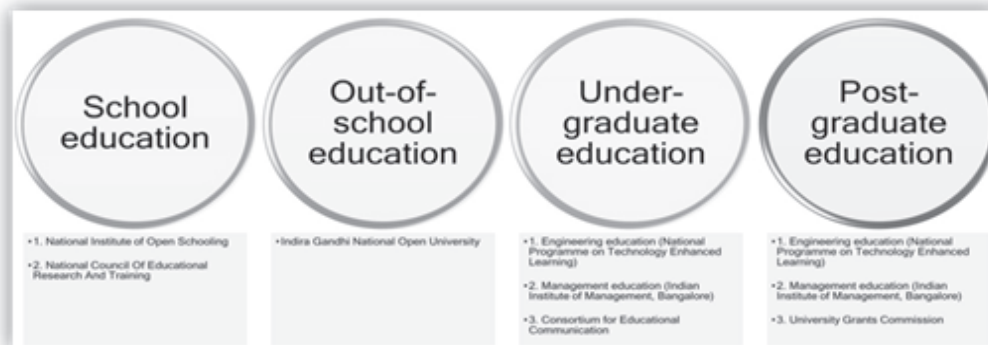

Figure No.13. The figure providing the details of educational institutions involved in the various levels and modes of education covered under MOOCs via the SWAYAM (MHRD, 2018).

The instructional approaches adopted by SWAYAM include (MHRD, 2018):

     i.   Video lectures on their website, and on computer hard disk for libraries.

     ii.   Downloadable printed study material in self-learning mode

     iii.   Self-assessment tests through tests and quizzes

     iv.   An online discussion forum for clearing the doubts.

No fee is charged from the learners accessing in course contents through SWAYAM, on the other hand, students wanting certifications requires registration and a nominal fee is charged after completion of the course. After completing each course, students are assessed through proctored examination and the marks/grades secured in this exam can be transferred to the student's academic record. UGC Regulation 2016 (Credit Framework for online learning courses through SWAYAM) empowers the Universities to transfer credits to the academic record of the students for the selected courses done through SWAYAM (MHRD, 2018).

7.   Current status of Internet Access and its role in distance education

The 21st century is witness to the astronomical rise in the availability of the Internet and broadband services. Digital connectivity is providing access to unparalleled knowledge, employment, and economic opportunities and changing the lives of billions of people worldwide (ITU, 2017)."

Figure No.14. Use of Internet in the youth across the globe (ITU, 2017 a)

From 2012 to 2017 mobile-broadband connections have shown growth of more than 20% annually. The mobile-broadband connections are expected to reach 4.3 billion globally by end of 2017. In 104 countries, more than eighty percent of the youth population is online. The figures (in percent) for youth aged 15-24 years using the internet in developed countries, developing countries, Least Developed Countries (LDCs) is 94%,67%, and only 30% respectively. China and India stand out as per the number of internet users thirty-nine percent of the global online young users were from China and India. Africa or Asia and the Pacific fares poorly in Internet usage as almost 9 out of 10 young individuals are not using the Internet live there (ITU 2017 b) (Figure 14). In 2015, forty-three percent of the world's population was having regular access to the Internet. There were 3.2 billion Internet users worldwide, and 2 billion Internet users were from developing countries (ITU, 2015). Nir Eyal in his book titled 'Hooked' had highlighted that new technologies use the hidden psychology of the people to change their behaviours and these act as habit-forming products. The new age technologies can use behavioural designs for education by using habit-forming products (Eyal, 2015).

In 2007, globally, there were 150 million tertiary students (studying in universities, trade schools, and colleges). The figure of tertiary students touched 165 million in the year 2012. It is predicted that the figure is expected to reach up to 263 million in 2025. Africa being the most youthful continent has sixty-five percent of its population under the age of 35. By the year 2025 Africa needs huge educational infrastructure and set up to cater to the needs of tertiary students. The expansion of mobile telephony and inexpensive tablets can turn the digital divide into a dividend. (Kanwar, 2013).

According to Sebastian Thrun (creator of Udacity), predicted that globally in the next 50 years the number of conventional Universities would collapse to the figure of ten. 2012 was declared as "The Year of the MOOC," by The New York Times. The massive number of learners taking admission in MOOCs highlights that open access and free university education is accessible. Even though plenty of people sign up but drop-out rates are also enormous (The Economist, 2017). The massive open online courses (MOOCs) have expanded worldwide and particularly in developing countries due to affordable mobile telephony and the Internet. MOOCs are disrupting the higher education landscape and potentially disrupting the model of conventional universities. Figure 15 shows the news article published in The New York Times with the headline "The year of the MOOC".

Figure No. 15. News article carried in New York Times titled "The year of the MOOC" (Learnxspace.com, 2012).

The tertiary institutes were providing online OER and virtual learning environments for many years. MOOCs are catalyzing the education sector. According to the 2015 Class Central report, the total number of MOOCs reached 4,200 (Shah, 2015). Many observers believe that of the majority of MOOCs are the one-way transmission of knowledge delivered by Ivy League universities i.e., from the developed countries to the developing world (Patru, & Balaji, 2016).

8.   Importance of MOOCs in achieving Sustainable Development Goals (SDGs).

A total of 8 Millennium Development Goals (MDGs) by the United Nations were set in the year 2000. The UN envisioned the goals to be achieved globally by the year 2015. The first goal focused on eradicating poverty and hunger, the second goal focussed on achieving Universal primary education, the third goal focussed on promoting gender equality and women empowerment, the fourth goal focussed on reducing child mortality, the fifth goal focussed on improving maternal health, the sixth goal focussed on combating diseases, the seventh goal focussed on the environmental sustainability and the eight goals focused on the global partnership in development (Figure 16). Education was recognized as a standalone goal (MDG 2).

Figure No.16. Figure illustrating eight 'Millennium Development Goals (MDGs)'. The United Nations set eight goals in the year 2000 – the Millennium Development Goals (MDGs) – to be achieved worldwide by 2015 and education (MDG 2) was recognized as a standalone goal (Burger, 2015).

A total of seventeen Sustainable Development Goals (SDGs) by the United Nations were set in the year 2015. The UN paid special attention to education and believes it to be the vehicle of change for reaching the targets of SDGs. SDG adopted Quality education as a standalone goal (SDG 4). UN envisioned promoting lifelong learning opportunities, inclusive and equitable quality education (Figure 17) for all (Patru, & Balaji, 2016).

According to ITU's report *ICT Facts and Figures,* ICT can act as a catalyst in achieving the global SDGs. It believes that for achieving SDGs, ICT can boost economic

and social development, dipping the digital divide and promoting an inclusive digital economy (ITU, 2017 b).

Figure No. 17. Figure illustrating seventeen 'Sustainable Development Goals (SDGs)'. Education was recognised as a standalone goal (SDG 4) at Incheon, Republic of Korea, in May 2015 to give a roadmap for education planners and practitioners for the next 15 years (WHO, 2015).

MOOCs can help in furthering the SDGs. The SDG 4 by promoting access to quality higher education, improving skills and employability of participants and helping to create better conditions for more equitable economic growth.

There are three types of MOOCs contributions that we can identify that help in achieving SDGs:

1. Promote access to currently underrepresented populations: people from developing or least developed countries, of any age, women, people with lower levels of education and those who are not presently employed.

2. Recognition of knowledge and skills. With validation and social recognition of acquired knowledge, the education may lead to improved employability and contribution to all SDGs.

3. The promotion and teaching of values, knowledge, and skills necessary for social transformation towards more sustainable lifestyles (Diaz, 2017).

For achieving SDG4 (relating to quality education) MOOCs produced for National Open Education Platform (NOEP) can contribute in a big way. The MOOCs produced for NOEP following the quality standards both in the presentation format of course core materials (video lectures) and the evaluation system (assessing the competencies). Thus, official requirements for courses within the NOEP project pledge an assured level of excellence, helping HEIs to conquer certain prejudices towards MOOCs (Kulik & Kidimova, 2017).

9.   MOOCs providers

An institution involved in developing and publishing MOOC is called a MOOC provider. Majority of the MOOC providers are Higher Education Institutions (HEI). MOOCs are also offered by organizations like the World Bank, the International Olympic Committee, or the software company e.g., SAP.
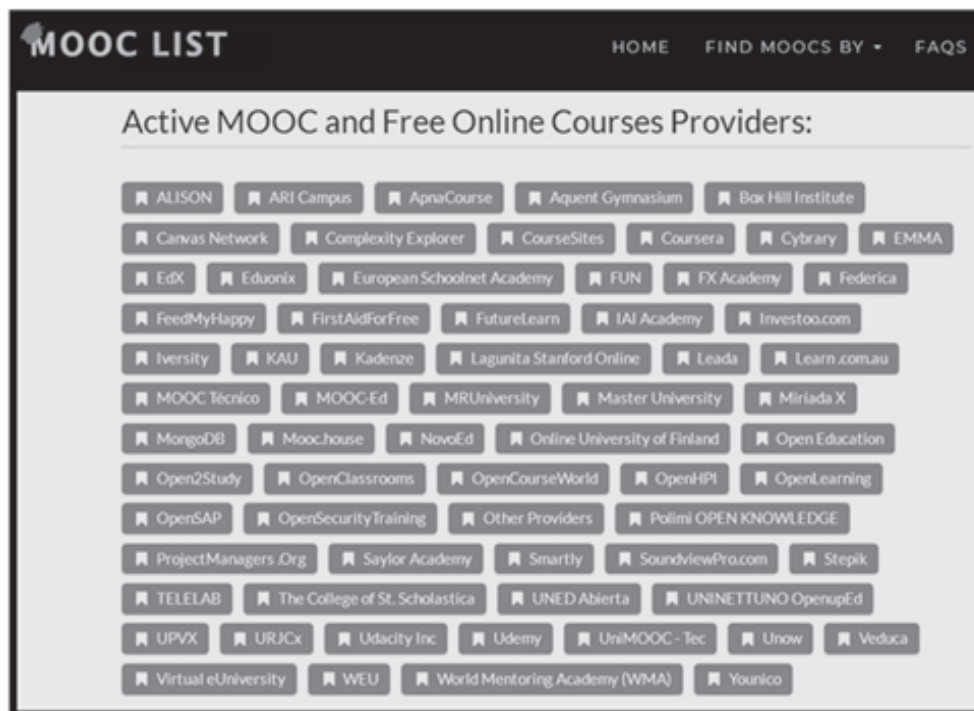
Figure No. 18. *Screenshot showing list of Active MOOCs and Free Online Courses Providers* **(MOOCs List, 2017).**
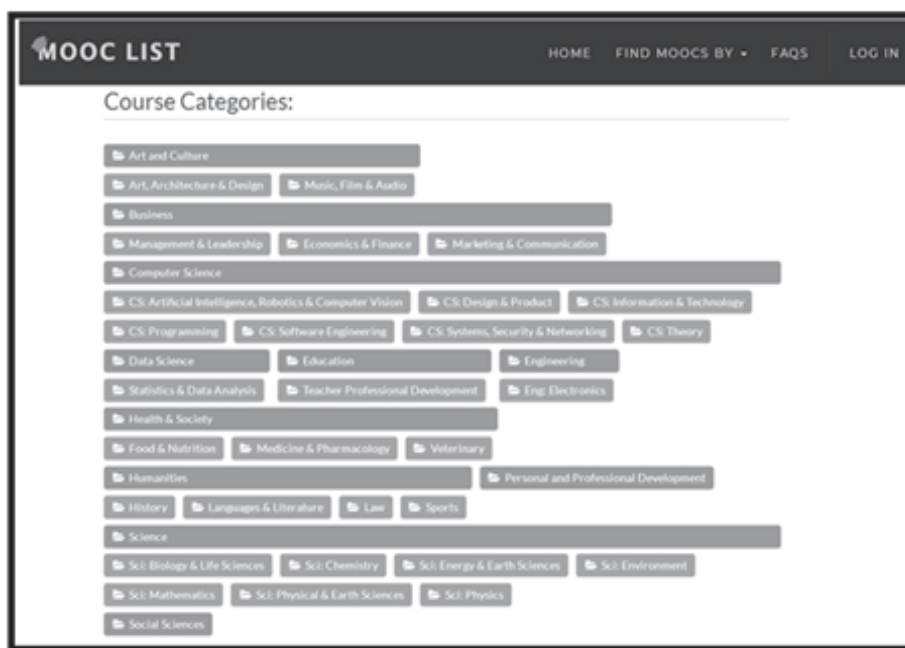
Figure No. 19. *Screenshot showing list of course categories available in MOOCs* **(MOOC List, 2017).**

Some HEIs outsource their MOOCs in terms of area of education and training, partners that offer MOOC. Many HEIs prefer to administer their own platforms. HEIs in Europe are increasingly choosing to launch their own MOOC platforms.

There are various scenarios existing for MOOC production and deliverance (Figures 18 & 19):

1. National level or centralised scenario e.g., France université numérique (FUN);

2. Industrial scenario run by the private companies e.g., Coursera, FutureLearn;

3. Collaborative-decentralised scenario, implemented at local-regional level and promotes diversity e.g., OpenupEd (Sfiri & Pietkiewicz, 2015).

10.   Present scenario of MOOCs globally

There are 35 million learners globally taking up MOOCs from more than 500 Universities offering 4200 courses as per the report of Stanford Class Central. The commercial provider Coursera is providing a large number of courses as compared to others (Shah, 2016) and there is domination of United States of America in the MOOC courses (Straumsheim, 2017). US-based MOOC providers are offering 60% of all the MOOCs available globally (Shah, 2016). The MOOC providers from Europe are showing

promising signs. FutureLearn (led by Open University of United Kingdom) got more than three million learners following its commencement in late 2013 (Walton, 2016).

The following are the big MOOC initiatives from Europe:

i) France Université Numérique (FUN)

ii) Miriadax,

iii) ECO

iv) EMMA

OpenupEd encourages Europe-based MOOC initiatives. It offers multiple MOOC platforms, where various partners use their own platforms. It propagates diversity, multilingualism, equal opportunity, and quality. It also provides a marketing opportunity to its collaborating MOOC providers (OpenupEd, 2016).

Asian governments are playing an active role in MOOC initiatives. The governments in South Korea, Thailand, Malaysia, China, and the Philippines are promoting MOOCs as national initiatives. The target of the Chinese government is to provide higher education opportunity to more people through MOOCs. The Korean and Malaysian governments are focusing on reforming their existing systems of higher education and lifelong learning through MOOCs. Japanese government established the J-MOOCs which is a joint-initiative (a group of universities, corporations, governmental institutes, and academic societies) to offer MOOCs (Kim, 2015).

The 'cMOOCs' are Connectivist. They focus on social learning approach, which depends on the online sharing of views among participants. The xMOOCs are institutionally-driven and content-focused courses. The xMOOCs are focused on the 'behaviourist' principles of knowledge attainment through exercise and testing is content delivery and e.g., edX and Coursera. (Downes, 2012; Rodriguez 2012).

As the MOOCs are emerging to meet the requirements of the students, tertiary education providers and teachers delivering content, the innovative, flexible approaches will be required. (Bayne & Ross, 2014). Table 8 gives an overview of the leading xMOOCs throughout the world.

Table No. 8. Leading xMOOCs.

The MOOC Global Landscape				
MOOC	**University/ Organisation**	**Country (origin)**	**Courses (Appox.) courses**	**Enrolment (Appox.) Registered users**
coursera www.coursera.org/	Stanford + 150 of the world's top universities and educational institutions,	USA	more than 2,000 courses	26 million
edX www.edx.org/	Founded by Harvard University and MIT in 2012	USA	1924 courses	10 million
UDACITY in.udacity.com	Pvt. + Universities	USA	Offering Nano degrees	4 million
Future Learn www.futurelearn.com	The Open University	UK	202	7,386,289
swayam https://swayam.gov.in/	MHRD, NPTEL, IIT, UGC and with the help of Microsoft Launched on 09-July-2017 (Sunday)	India/Asia	Govt. aims to offer about 2,000 online courses	
FUN MOOC www.futn-mooc.fr	France Universite Numerique	France/ Europe	240 +	
MIRÍADAX_ https://miriadax.net	Telefónica EDUCACIÓN DIGITAL	Spain & Latin American Countries		
ECO ecolearning.eu	cip European Community's CIP	Europe		

platform.europeanmoocs.eu	11 different organisations from 8 European countries are involved in EMMA	Europe		60,000 users
www.unopar.br		Brazil		
www.open2study.com	Open Universities Australia	Australia		
iversity.org	Academic in stitutions, NGOs and businesses from all over Europe	Germany		
xuetangx.com	Tsinghua University	China		6 million
www.kadenze.com	World's top Universities and Arts College		174 Courses	6 million
openedu.ru	8 Russian leading universities formed National Open Education Platform	Russia	258 Courses	1 million +
www.universiteplus.com		Turkey		

11. The dominance of English in Delivery of MOOCs in Multilingual India

The popularity of the English language has spread globally. It is also sometimes correlated with linguistic imperialism, especially, where English becomes dominant at the cost of native languages (Ljungdahl, 2004). In the U.S.A., Canada, UK, and Australia the supremacy of the 'Anglo-centric hothouse' is at times perceived as the latest form of cultural imperialism. (Pant, 2017 a). The competency in a particular language has ramifications in our lives, it affects our social and vocational opportunities. There is cultural deprivation if the first language 'dies' but the language learner remains unskilled (or even fluent) in English. Sometimes the Non-native speakers of English may come across prejudices. With the rise in the English language as an international language, classification of speakers into "native" and "non-native" becomes inconsistent (Brutt-Griffler & Samimy 2001).

According to India's census data the most spoken eight languages in India in descending order are: Hindi (422 million), Bengali (83 million), Telugu (75 million), Marathi (71 million), Tamil (60 million), Urdu (51 million), Gujarati (46 million), and Punjabi (29 million). The language played an important role in the formation of various states in India. Besides origin of states on linguistic lines, each state is having its own record of literature, art, performing arts, political affairs, and value system. Approximately thirty percent of Indians are able, speak (to varying degrees) English and only a third have a little reading and writing aptitude. It is perplexing that the majority of people in India are oppressed by lack of knowledge of a language (Aula, 2014). Especially the MOOCs available only in English language and requires the learner to have English language skills are excluding the majority of learners (lacking knowledge of English language) from keeping pace with the desired learning. India is encouraging the expansion of MOOCs in Hindi and other regional languages (Pant, 2017a).

12.   The fourth industrial age: challenges and opportunities

We are presently living in an era of 4th Industrial Age. It is the fusion of the physical world (of atoms and energy), the digital world and the biological world (of genes & neurons) in the world of humans (Pant, 2017). There is a boom in the new field of science and technology. The advances in genetics, artificial intelligence, robotics, nanotechnology, 3D printing, and biotechnology are revolutionizing the world. These developments are leading to smart systems (homes, factories, farms, grids or cities). With the coming of the fourth Industrial revolution, there is a disruptive change in the current skill sets of employees. It has often taken decades to build the training systems during the previous industrial revolutions. (Figure 20). The massive pace and scale of disruption brought about by the 4th Industrial Revolution require mega innovations in training and education sector for the workforce in a short span of time.   The technology & knowledge is expanding at a rapid pace. The new skill sets required in the fast-changing platform of industries. World Economic Forum's report predicts the information concerning expected relative employment changes to job families from period 2015-2020. According to its report due to current trends 5.1 million jobs will be lost due to disruptive labour market changes over the period 2015-2020. By 2020, on average, more than a third of the desired core skill sets of most jobs will be comprised of skills that are not yet considered essential to the job today. The report predicts that social skills (such as persuasion, emotional intelligence and teaching others)- will be in higher demand across industries than narrow technical skills (such as programming or equipment operation and control). The technical skills will need to be augmented with strong social and teamwork skills (World Economic Forum, 2016).
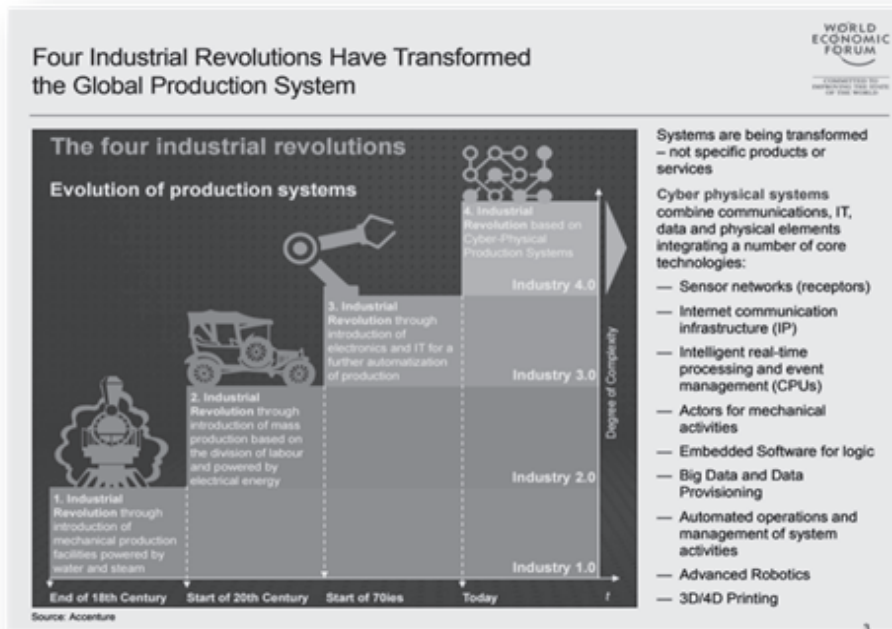
Figure No.20. Characteristics of Industrial Revolution (from the end of 18th century to the present era). The present era is considered fourth industrial revolution. (Moavenzadeh & World Economic Forum, 2015)

13.   Lifelong learning an economic imperative for success in the 4th Industrial Age.

Figure No. 21. 'The Economist' illustrating the importance of lifelong learning in the age of Automation (The Economist, 2017 a).

If the education and technology are not in sync it results in inequality. With the arrival of new innovations, the worker force lacking in new skills suffer and lead to the collapse of society. The Industrial Revolution propagated state-funded universal schooling. Shortly, automation in factories and offices saw a surge in college graduates. The permutation of education and innovation, in the industrial era, led to prosperity. Now, robotics and artificial intelligence call for an additional education revolution. In the present scenario, with a long lifespan of workers, acquiring new skills throughout their careers is imperative in the constantly evolving work requirements (The Economist, 2017).

"Education is no longer age bound and completed usually from six to twenty-two years of age. To stay relevant, education of employees must continue learning all through their lives (Figure 21). It's time to focus from K-12 education to K-Gray education (kindergarten to retirement) (Fishman, & Sledge, 2014).

Incentivizing lifelong learning: In many aging economies, the declining future population share of today's youth cohort requires massive reforms in current education setups. The progressive reforms will provide today's learners to gather future skills requirements. Aging countries not only need lifelong learning but also require wholesale deskilling of existing workforces during their lifecycle. Table 9 gives an overview of the top ten skills which will be desired in the future and will help the masses to get good jobs. More collaboration between the governments and businesses is required for individuals to have the time, inspiration and resources to get retraining opportunities (World Economic Forum, 2016).

Table No.9. Comparing the top ten job skills for the future, 2020 (Montreal Gazette, 2016)

Top ten skills	
in 2020	**in 2015**
1. Complex Problem Solving	Complex Problem Solving
2. Critical Thinking	Coordinating with others
3. Creativity	People Management
4. People Management	Critical Thinking
5. Coordinating with others	Negotiation
6. Emotional Intelligence	Quality Control
7. Judgment and Decision Making	Service Orientation
8. Service Orientation	Judgment and Decision Making
9. Negotiation	Active Listening
10. Cognitive Flexibility	Creativity

MOOCs have graduated from general lectures to the courses that make their students more employable. Learners looking for up-skilling or self-improvement can enroll for affordable short duration programmes that confer "micro-credentials" and "nano degrees"

from Udacity and Coursera. Universities are making it easier for professionals to polish their skills through online degrees (The Economist, 2017).

12.   Technologies for Next Generation MOOCs

The MOOCs rely on ICT tools and technologies. The futuristic or next-generation technologies going to impact the MOOCs are mentioned below:

i)   **Big Data:** The cutting edge modern technology can follow and accumulate students' learning activities as big data sets within virtual environments. Big data is the capacity of storing big quantities of data over an extended period and down to particular transactions (Picciano, 2012). In educational sector the Big data can be collated from the different sources like learning management systems (e.g., Blackboard), open source platforms (e.g., Moodle), open social platforms (e.g., LinkedIn), and different web tools like (Meerkat-Ed and Snapp) (Reyes, 2015). Data analytics is the scientific process examining the data to reach conclusions and to suggest paths to reach decisions. (Picciano, 2012). According to Brown (2012), learning analytics (LA) is the procedure of scientifically gathering and analyzing large data sets from online sources for the purpose of improving learning processes. LA is an up-and-coming field in education. LA will be extensively used in online education to know students' pattern of behaviours and to perk up students' learning and retention rates in the coming years. Predictive models are used in LA which provides actionable information. LA uses a multipronged approach based on data processing, technology-learning enhancement, educational data mining, and visualization (Scheffel, Drachsler, Stoyanov, & Specht, 2014).

ii)   **Virtual and Augmented Reality**: Augmented reality (AR) and virtual reality (VR) are technologies provide an immersive educational experience to the learners. The users of VR step into an immersive, computer-simulated world involving sensory experiences. Oculus Rift a head-mounted device can deliver both AR and VR experiences (Silver, 2015). AR incorporates digital images, video, and audio into real-world spaces. (McKalin, 2014). AR and VR offer gripping applications for higher education; transport learners to any conceivable location across the world. AR and VR are transforming the delivery of knowledge and empowering students to engage in deep learning (Horizon Report, 2016).

iii)   **Blockchain for credentialing:** A blockchain basically a database. The database is constantly increasing growing a and has extraordinary properties:

*   Data once stored in the database is non-mutable. Each documentation on a blockchain is permanent for eternity.
*   Database is not maintained by a single individual or organization; Thousands of individuals everybody on the blockchain has the access and copy of the database with themselves (Mamoria, 2017).

European Commission's Joint Research Centre (JRC), believes that the blockchain will end the practice of issuing the paper-based certificates. Blockchain will automate the award, recognition, and transfer of credits, boost

student's ownership and control over their own data. It will decrease institutional data costs and risk if open standards are adopted. The blockchain will fortify the links between accreditors, validators, testers, employers, learners and teachers (Figure 22).

According to the JRC report, the benefits of blockchain are as follows:

- *Self-sovereignty*: users' personal data is in their control in relation to storage and administration
- *Trust:* payments or the issue of certificates are done in a trustworthy way
- *Transparency:* there is transparency in the transaction;
- *Immutability*: records are written and stored eternally with no possibility of amendment;
- *Disintermediation*: there is no central controlling authority to manage transactions or record keeping
- *Collaboration*: the parties can transact directly with each other and no mediation from third parties is needed (Grech & Camilleri, 2014).
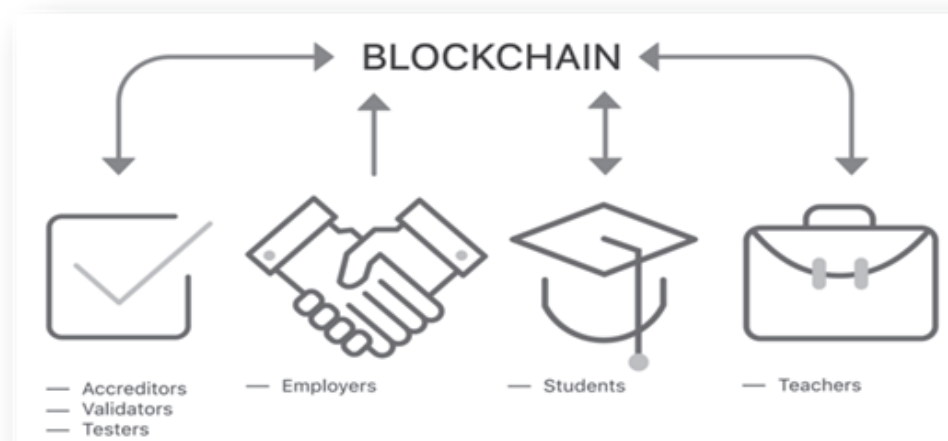
Figure No. 22. The illustration above explain the connections between accreditors, validators, testers, employers, students and teachers in the blockchain (Ark, 2017)

The educational institutes are exploring the use of blockchain certificates verifying the educational credentials of the students. The Open University and the University of Nicosia, in Europe are experimenting with blockchain certificates. MIT Media Lab (U.S.A.) is using Blockcerts for issuing digital certificates since 2015 (Ark, 2017 a).

iv) Smart Content: Ethereum is an entirely decentralized computer that is dispersed across the globe (Mamoria, 2017). This decentralized platform runs smart contracts - applications that run exactly as programmed. The applications are stored and run on a specially made blockchain and it works without a middleman or counterparty risk. There is no likelihood of downtime, censorship, fraud or third-party interference. (Ethereum Foundation, 2017).

v**)**   **AI for learner support (Chatbots and their potential role in education):** With the advancements in Artificial Intelligence, the new era of learner support is available in form of a virtual teaching assistant. During the spring 2016 semester, Jill Watson – a virtual teaching assistant was used for the first time at Georgia Tech (Atlanta, U.S.A.). It was implemented on IBM's Watson platform. It was introduced by Professor Ashok Goel in Knowledge-Based Artificial Intelligence (KBAI), a core course for Master of Science in Computer Science degree program. Jill was deployed to answer particular types of frequently asked questions without the help of humans. The information about the virtual teaching assistant was withheld from the students until the concluding day of the class. Chronicle of Higher Education, acknowledged Virtual teaching assistants (TAs) as illustrated by Jill as one of the most transformative technologies to impact educational institute, within the past 50 years (Maderer & Georgia Tech, 2017).

Bill Gates (Microsoft co-founder) expressed the educational implications of the chatbots – programs. Chatbots like a human teacher can answer the text (educational query) sent by students and help in their education. The chatbots can virtually act as tutors as they provide "dialogue richness,". Chatbots engage in a text conversation with a student, clarifying their doubts and solving their problems. Chatbots could check assumptions and gently guide the student in the right direction. It results in systematic learning for each kid, at their own speed, on their own devices and at their leisure (Weinberger, 2016).

vi)   **AI recommendation Engines:** The number of choices is awe-inspiring on the Internet. There is a need to filter, prioritize and efficient way to deliver important information to avoid the problem of information overload. Recommendations Engines is one of the concepts in Artificial Intelligence. Recommender systems search through a large volume of dynamically generated information and provide personalized content and services to the users (Isinkaye, et al., 2015). In the era of data explosion, it is important to scan through the mammoth quantity of data. Recommendation Engines are a great tool for filtering and guarantee that the user receives relevant data according to his taste, style, and preferences without wasting users precious time hunting for the right data. The recommender system search, compare, rate and review the best content for the learner. It saves the time of the learner (Naik & Humans for AI, 2017).

15.   Teaching-learning models for NextGen MOOCs :

(a)   Stress on Heutagogy: For the next generation MOOCs there is need to focus beyond Pedagogy (the study of the methods and activities of teaching) and Andragogy (the theory, methods, and activities involved in teaching adult learners). It's time to focus on Heutagogy. It is a holistic, learner-centered approach to learning and teaching, in formal and informal situations. It is a form of self-determined learning with its theory grounded in humanistic and

constructivist principles. There is more stress on the learner and the process of learning (Gros, Kinshuk &Maina, 2016).

i.   Mastery of learning: To implement mastery learning strategy next generation MOOC developers and educators must accomplish four main tasks i.e., defining mastery, planning for mastery, teaching for mastery and evaluation/grading for mastery (Varughese, 2002).

Table 10 highlights the various methods/procedures that should be adopted to implement the mastery learning and their outcomes.

MASTERY LEARNING (Varughese, 2002)	
Action/ Method/ Procedure/ Parameter	*Affect /Impact/Outcome*
Breaking content into smaller parts	The major tasks of learning are divided into several subtasks. While teaching and learning there is a focus on the nature and significance of the tasks and related subtasks and it plays important role in mastery learning (Anderson and Anderson, 1982).
Feedback to students	The evaluation system (giving subjective and objective evidence) provides feedback to students about the mastery of a subject. The feedback develops student's interest in the subject mastered, motivates him for further learning and affects self concept and modifies perception about the external world.
Use of Diverse instructional materials and procedures	Diverse instructional materials and procedures must help both teachers and students to overcome feelings of despair and passivity about learning. The student is reassured that multiple alternatives are available if he cannot learn in one particular way.
Pace of learning	Every individual has a different pace of learning for mastering a task. The vast majority of students should be involved in the process of learning with help of activities in content provided for learning.
Individualised instructional materials	Individualized instructional materials are useful for a student who fails to grab the ideas or a procedure in the textbook form. Units arranged in sequential order, feedback and reinforcement provide in the study material make the learning process easy.

The MOOCs scientifically designed based on the mastery of the learning model can make a lot of difference in academic achievement and completion of the course.

16.   The Independent MOOC Educator:

Advances in educational technology are altering delivery methods of course materials as well as student interactions with the content and their instructors. These days more and more teachers are expected to use technological innovations for creating digital learning resources and courseware, engage in online discussions and do collaborative authoring. Teachers are also expected to develop active learning methodologies. Moreover, the rise of competency-based education, which tailors the educational experience of students based on their needs, poses a fresh challenge in the evolution of learning (The New Media Consortium, 2017).

The MOOC educator is trained and certified to mentor learners on the choice of courses to pursue, add value to life-long learning, curate existing MOOCs and create MOOCs to complete the learning requirements of his mentee/protégé. He could also help teachers and trainers to learn how to transform and package their educational and training programs to be offered as MOOCs (Pant, 2017). For creating MOOCs there is the availability of numerous free platforms e.g., OpenEdX, Moodle, etc. (MOOC List, 2017 a).

The ECO (ecolearning.eu) is providing training to become an e-teacher and create MOOCs (Figure No. 23). Teachers can launch their MOOCs after they complete the training in sMOOC.
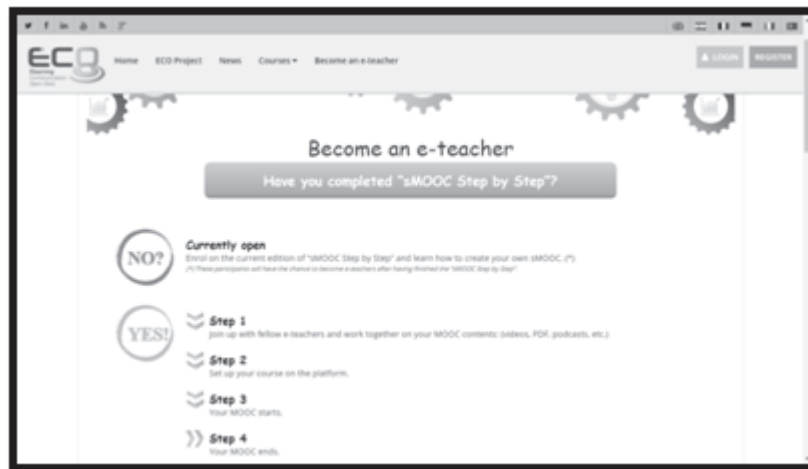
Figure No. 23. The screenshot showing steps of becoming an e-teacher. ECO is a European project based on Open Educational Resources (OER) that gives free access to a list of MOOC in 6 languages. If a teacher becomes the part of this project, they have the opportunity to create your own MOOC. The main goal of this project is to broaden access to education and to improve the quality and cost-effectiveness of teaching and learning in Europe (ECO, 2017).

17.   The future of MOOCs in India

The increase in the population has an impact on a nation's growth and development as it provides a productive workforce and on the other side adds the number of dependent individuals in the economy. Till 2040, India can harvest the 'demographic dividend' (an

increase in the ratio of the population aged 15-64 years to that aged 0-15 years and above 65 years), after which the population would start getting old. The demographic dividend can only be capitalized by channelizing the skills and potential of working age population and providing them employment. (Talreja, 2016).

The Indian government is planning to increase the digital intensity in the education sector and move gradually from blackboard to the digital board. Technology is the biggest driver in improving the quality of education. India's education sector will see increased use of new age technologies such as cloud computing to virtual reality. The Indian government is implementing large-scale reforms in India's education sector such as Revitalising Infrastructure and Systems in Education (RISE) scheme. Union Government has earmarked rupees one lakh crore as expenditure for RISE scheme and it will see increased use of new age technologies such as cloud computing to virtual lab, virtual reality (VR)-enabled classrooms or curated online content for both students and teachers. "Digitising education has been an imperative keeping in mind the affordability, accessibility, inclusiveness of the large trainable youth population. Technology may be used to reach the diverse population at the remotest corners. MOOC platforms, NPTEL are already in use for promotion of higher technical education. IITs across locations are working on "digital convergence" and "development of innovative infrastructure for education" which could result in increased use of new-age technologies (MHRD, 2018).
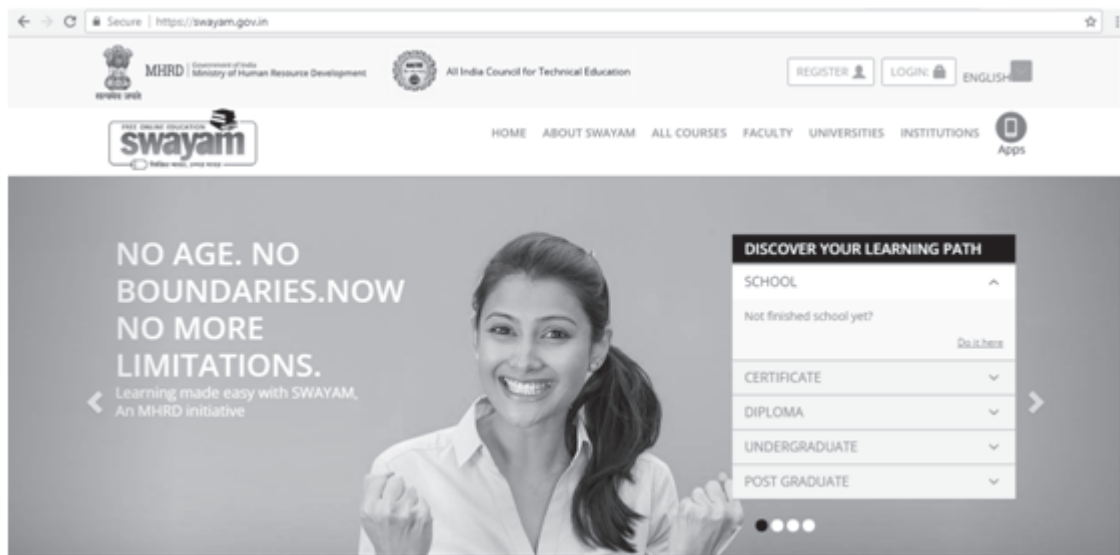
Figure No. 24. The above screenshot shows the home page of SWAYAM, an online life-long training platform developed with the help of Microsoft, /Diksha. It aids teachers with digital and tech-based teaching solutions. (MHRD, 2018 c)

SWAYAM, an online life-long training platform developed with the help of Microsoft, or Diksha, a platform that aids teachers with digital and tech-based teaching solutions, are "prominent efforts" in revamping the education infrastructure (Figure No. 24).

SWAYAM uses indigenously developed IT platform hosting all the courses, taught in classrooms from 9th class till post-graduation to open to all and without any barrier of space and time. No fee is charged from the Indian students. The courses are prepared by the panel of expert faculty and teachers from across India. All the courses are in interactive format. (MHRD, 2018 b). SWAYAM is a tool for self-actualization giving access to life-long learning. The student studying in college/ University can choose from hundreds of SWAYAM courses (taught at the university/college/ school level) and credits earned by taking these courses can be transferred to their academic record (MHRD, 2018).

18.   Conclusion

MOOC platforms, NPTEL are already in use for promotion of higher technical education. The present paper had shown a panoramic view of important landmarks in the field of MOOCs globally and in India. For students, the learning resources are approachable to the students with access to digital courseware and open educational resources (OERs). There are considerable issues of access and equity persisting amid students from low-income, marginal, single-parent families, and other underprivileged groups. The increasing diversity of the global student population requires more flexible degree plans, as the one-size-fits-all approach of conventional tertiary education paradigms and exorbitant tuition fees create a challenge to educate a large number of students. The need of the hour is to align tertiary education programs with in-depth learning outcomes, acquiring twenty-first-century skills, tailored learning strategies and data-driven student support systems that encourage goal attainment and provide job to the students (according to the skill sets acquired by them) (The New Media Consortium, 2016). The disabled and underrepresented students are getting access to web materials and higher education due to technology. Accessibility of high-speed internet makes online learning and use OERs can reduce the financial burden on the students (Holmes, Fox, Weider, & Zubak-Skees, 2016).

The advent of new technologies, affordable internet access, advances in artificial intelligence, and the stress on ICT adoption for sustainable development and in the field of education by international organizations will pave a new era in higher education. India is preparing for a revolution in cloud computing to virtual reality, as the government looks to implement large-scale reforms such as Revitalising Infrastructure and Systems in Education (RISE) scheme (MHRD, 2018 b). The MOOCs are capable of playing a significant role in the providing access to education for a large number of learners through the intervention of ICT, which was near impossible to cater through conventional face to face learning in Educational Institutions.

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Game Changers in Indian ODL: ICT and MOOCs

Harsh Gandhar and Vandana Saini

Abstract

Higher education is recognized as a significant tool for upward mobility and building knowledge based society. Despite tremendous growth in student enrolment and number of institutions in India, demand has outgrown the availability of educational provision. Consequently, Open Learning has gained significance as an alternative mode of higher education and also as a strategy for the development of knowledge society. Moreover, the induction of Information and Communication Technologies and development of Massive Open Online Courses have initiated a new revolution in open and distance learning environment. The potential of MOOCs depends primarily on the ICT integration into ODL system of India. This paper is a humble attempt to study the challenges faced by ODL system in the usage and integration of ICT as well as potential of MOOCs in India.

INTRODUCTION

Higher education is recognized as a vehicle of sustainable development, upward mobility and knowledge based society. Indian higher education system has seen a tremendous growth since independence- from 20 universities, 500 colleges and 210 million students at the time of independence the numbers have multiplied to 42 times, 83 times, and 136 times respectively (UGC, Annual Report, 2016). Since Ninth Five Year Plan, extensive provisions are made by the Central and State Government of India for expanding higher educational facilities i.e. setting up a number of formal educational institutions like central universities, IITs, IIMs, NITs etc. Nonetheless, the growth of private sector HEIs in the professional streams has been tremendous in the post-reforms period. Despite this appreciable growth of higher education system, India still lags behind developed nations and leading developing nations as regards Gross Enrolment Ratio (GER). India's GER in higher is 26.8 percent, which is well behind world average of 36.09 percent, China (43.4 percent), France (64.4 percent), United Kingdom (57.2 percent), and U.S.A with 85.8 percent

(WB, 2017).The ever increasing demand for higher education due to population bulge often described as demographic dividend; inaccessibility of many students belonging to disadvantaged groups; and many facing geographical, social, cultural, economic, linguistic or gender barriers have forced the policy-makers to look upon distance and open learning mode as a useful alternative. The ODL system occupies a special place due to its unique contribution in catering towards the educational needs of heterogeneous groups and its cost effectiveness, which is about one-fifth of the cost incurred in the conventional education system.

The development of the ODL system, From the stage of print I oriented correspondence education to the stage of self-instructional package involving an integrated multi-media approach, and of interactive communication technologies, leading towards building of virtual learning institutions has been significant. The world is currently undergoing a massive transformation as a result of the digital revolution. And the more extensive contact amongst educational institutions by means of Information and Communication Technologies (ICT) fosters better teaching-learning environment. The application of new interactive communication technologies in providing flexible and cost-effective program through the distance mode is now widely recognized and appreciated. Nevertheless, the ICT usage in ODL system may help to bridge the gap of digital divide.

In the wake of globalization of education, rapid changes have taken place in the domain of distance education programs which are mainly driven by changes in ICT and recent development in this context is popularity of Massive Open Online Courses (MOOCs).Though ODL system has an enormous opportunity through ICT and MOOC technologies to increase Indian GER from present level of 26 percent and to reach the disadvantage groups and regions, yet the real potential depends on the availability of requisite infrastructure, initiatives of the government, participation of higher education institutions, technological break-through, development of platforms, market demand of courses etc. Hence, the proper use of ICT is the pre-requisite for reaping the benefits from MOOCs. This paper makes a humble effort to study various issues facing diffusion of technological benefits, integration of ICT into ODL system and for building potential of MOOCs in India.

OBJECTIVES:

The present paper attempts to (a) to bring out important barriers or challenges facing integration of ICT in distance education in India, and (b) to dwell on potential of MOOCs in India. The study is organized into following sections: Section I discusses the challenges that inhibit the integration of ICT in ODL system and Section II deals with the potential of MOOCs in India.

SECTION -I

ICT INTEGRATION IN ODL SYSTEM: CHALLENGES

Open and Distance learning has been forging ahead in the path of progress and dynamism, offering a variety of courses and research contributions. India faces a number of challenges in the adoption of ICT in the education sector. Although underserved communities in India are gaining access to computers internet, their benefits are limited

because of various barriers like infrastructural constraints, political and government policies, low quality networks, higher costs of machines, complex software, lack of trained professionals, lack of awareness regarding ICTs and shortage of funds for the effective development of technologies etc. All these issues and challenges need an in-depth study as they are impediments in the effective roll-out and implementation of the ICT programs especially for educational purposes. Some of these non-economic bottlenecks and economic challenges have been discussed in this section:

(A)   NON-ECONOMIC CHALLENGES

(1)   Infrastructure-related Challenges:

The National Policy on Education (1992) has emphasized on the use of ICT technologies to improve the quality of education, both formal and non-formal. The penetration of telephone was 48 percent and that of radio almost 100 percent in the country; while the IT and telecom sector made noteworthy progress and was ranked at 121st position during 2012 in the ICT development index (International Telecommunication Union–Measuring the Information Society, 2013). Despite growing popularity and availability of ICTs in large parts of the country, the access to computer and internet is limited especially in rural areas as compared to other countries of the world. The low levels of computer and Internet penetration in India is evident from figures 1 to 3.

Figure-1 Number of Computers per 100 Persons (2008)
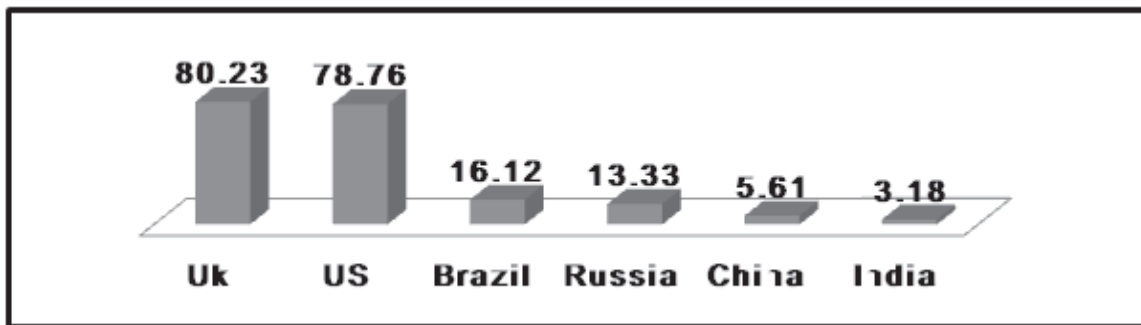
As shown in Figure 1, the number of computers per 100 persons or access rate of computers is 3.18 percent for India which compares unfavorably with countries like UK (80percent), US(79percent), Brazil (16percent), Russia (13percent) and China (6 percent). The percentage of Internet users as shown in Figure 2, has increased nominally in India between 2004 and 2008 (from 3 to 7 in numbers) as compared with UK (63 in 2004 to 80 in 2008), US (65 in 2004 to 74 in 2008), Brazil (19 in 2004 to 34 in 2008), Russia (13 in 2004 to 32 in 2008) and China was7 in 2004 to 22 in 2008 (Calsoft, 2012).

Figure-2 Number of Internet Users per 100 Inhabitants
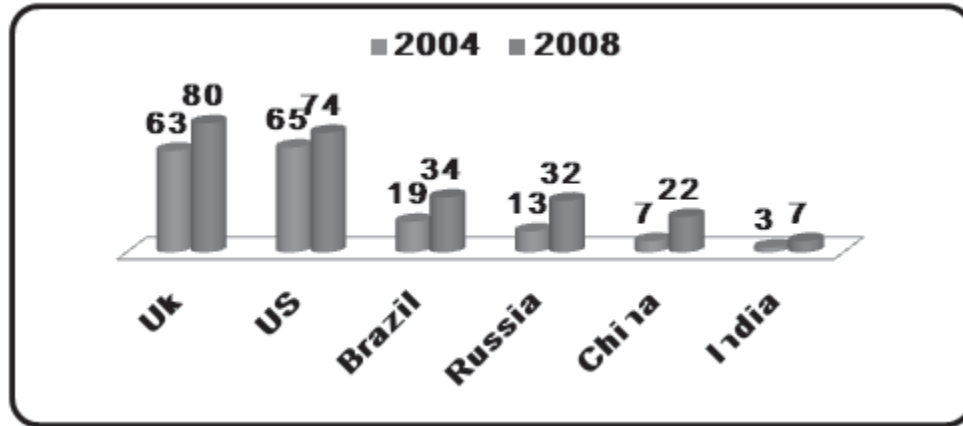
Source: Calsoft Labs, (2012)

As depicted in Figures 3 and 4, that around 72 percent people reside in rural areas who on average have only 1 percent access to internet whereas 28 percent are residing in urban locations that have mass access (99 percent) to internet (Calsoft, 2012). This indicates towards digital divide between rural and urban areas.

Figure-3 Percentage of Population living in Rural & Urban Areas
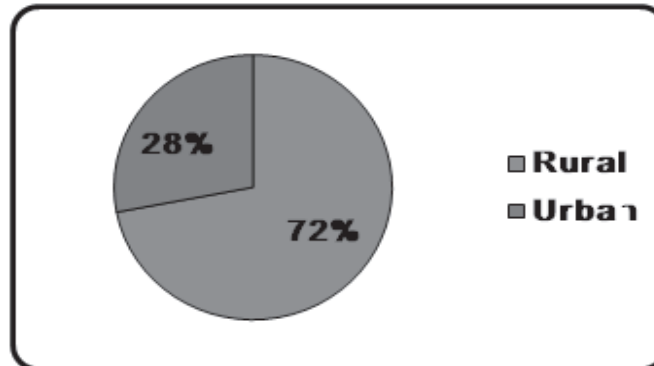
Source: Calsoft Labs, (2012)

Figure-4 Percentage of Population using Internet
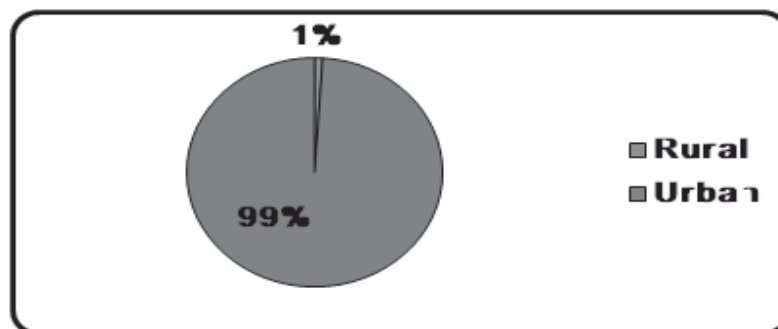
Source: Calsoft Labs, (2012)

It is believed that distance education widens the access of all the sections of the society and thereby helps combat the difference between rich and poor, but as the delivery of distance education is going to be increasingly dependent on ICT infrastructure, or on digital technology then it may not live up this expectation. Rather it may result in widening the Digital Divide or gap between haves (those having computers and connected to the Internet) and haves-not's.

Internet penetration in Urban India has been 65 percent in December 2017 while rural Internet penetration has grown to 20 percent in December 2017. The overall tele-density in India marginally decreased to 92 percent in September 2017 with 68 percent urban tele-density and 56 percent rural tele-density. It needs to be mentioned here that subscriber growth fill slightly due to the industry churn, high urban tele-density and reversal of dual SIM-led inflated growth in the past.

Therefore, while integrating the ICT programs in the country in general and in the educational system in particular, the educational administrators and planners should take into account ground realities namely telecommunication infrastructure, internet connectivity, computer availability appropriate rooms or buildings for the use of the technology, awareness of technical options proper electrical wiring, regular maintenance, safety and security etc.

(2)   Teacher-Related Challenges:

Insufficient understanding of the scope of an ICT resource in the knowledge-society leads to inappropriate or superficial uses of technologies in the development of educational curriculum (Punie & Cabrera, 2005). Though research into teachers' use of technology for professional development in the South Asian region is limited (British Council, 2015), yet it is a well known fact that ICT capacity building of teachers is lagging behind and pose serious hindrance not only in enhancing their skills and updating their knowledge with the new areas of teaching and learning but also impeding the absorption of new developments in educational technology. In India, less than 40 percent teachers have received in-service training during the period 2005–06 to 2007–08 in the use of ICTs in education [District Information System for Education (DISE) Flash statistics, 2009]. Moreover, teachers' capability in the choice and utilization of a particular application and program influences their confidence to implement ICT program into the educational curriculums.

However, all this can be improvised with proper and sincere policy-strategies of training teachers in the use of ICT programs, and their pedagogical application. Moreover, the teachers need to be sensitized about the value and utility of ICT-enabled learning programs in the distance educational systems which enhance their teaching-learning activities. Moreover, teachers well trained in ICT need to be hired for the success of MOOCs.

(3)   Capacity-Building Related Challenges:

Educational administrators play a strategic role in the integration of ICT programs in distance education especially in the provision of necessary conditions for the ICT initiatives and resources. Training programs and workshops are needed even for improving the skills of the administrators for their active involvement in the process of integrating ICTs in education, thus, making improvement and enhancement in the teaching and learning

activities (Farrell, 1999) for regular up-gradation of skills with the development of ICTs (Pelgrum,1999). The need of the hour is to sensitize the educational administrators with regard to their own responsibilities and to inspire them to inculcate the use of ICT tools as a part of their capacity-building programs and to learn about various dimensions of ICT tools in Open learning.

(4)   Technological & Technical Challenges:

In addition to selection of appropriate technology, its efficient application in distance education and certain other factors such as organizational and handling issues also act as constraints before the smooth growth of ICT. Many developing countries lack enough skilled personnel and technical facilities which in-turn hinders the growth of ICTs in distance education programs.The Spoken Tutorial project is the initiative of the 'Talk to a Teacher' activity of the National Mission on Education through Information and Communication Technology (ICT), launched by the Ministry of Human Resources and Development, Government of India. As technology becomes the determining reason for the growth of ICT programs in distance education system , the proper technical support would facilitate the success of MOOCs.

(5)   Content Development and Language Related Challenges:

The dissemination/transformation of original educational content through digital media (e.g. radio and television programs, interactive multimedia learning materials on CD-ROM or DVD, Web content etc.) is a must for the success of open & distance programs and MOOCs. Therefore, like technical support, the educational institutions need the skilled content development specialists in the form of instructional planner or designers, scriptwriters, audio and video personnel, multimedia course programmers or web-developers etc. Naturally, this will add to the cost involved in the implementation of ICT and MOOCs in open learning system especially in developing economies like India.

Language related challenge is another serious obstacle in the way of ICT incorporation in distance education. As English is the leading language of the internet and the bulk of the web-based educational material is available in English, it is though difficult but not impossible to develop the content/study-material in the regional languages especially in case developing countries where most of the students receive education in their native languages from the teachers who are also more comfortable in teaching in the vernacular medium. Moreover, the teachers (due to their excessive work-loads and limited time) resist in developing local need based content-materials.

(B)   ECONOMIC CHALLENGES

Major economic challenges are listed below:

(1)   Cost Related Challenges:

The integration of ICT in education require large amount of long-term capital investments especially the stupendous requirement of infrastructure development in developing countries. Hence, it raises the issue of cost-effectiveness of ICT integration in ODL.

The cost of internet access for Indian homes accounts for Rs.30 per hour. Therefore, higher user charges of most of the modern ICTs make their use for open and distance education, a very costly affair (Rajesh, 2003).The Vision 2020 targeted to raise distance education enrolment in higher education by an additional one million in the 12th Five Year Plan (GOI, Planning Commission, 2012). Therefore, the Directorates of Distance Education need to strengthen the usage of ICT to provide quality higher education. Consequently, the technological infrastructure and hence the issue of cost-efficiency in the ICT incorporation in ODL acts as the major roadblock. Moreover, the policy-makers in developing economies need to find out sustainable alternatives for ensuring cost effectiveness and easy accessibility of these technologies to the target group, and hence help in the fulfillment of all the expected functions of educational system.

(2)   Inadequate Funds:

In-fact it is very difficult to accurately determine the government's allocations and expenditures for ICT in India, since funds comes from various sources namely the Indian Space Research Organization, Agriculture Ministry's budget and from the Ministry for Human Resource Development. Therefore, lack of data on total amount of expenditure made by various sources itself creates another barrier in integration of ICT in distance education. Emphasizing on the need of completion of Local Area Network (LAN) connectivity work, MHRD has urged the higher education institutions across the country to wake up to the inevitability of ICT. Under the Twelfth Five Year Plan period the distance educational institutions have an opportunity to enter into both short-term and long-term partnerships with the business sector, particularly with the IT industries, in order to help maintain operation and financial viability of ICT-based education programs. The Government of India is also making resource initiatives for the integration of ICT in distance education, though there are some innate challenges that call for immediate attention and action.

(3)   Systemic Approach-Related Challenges:

As integration of ICT in ODL is a complex process, it needs complete conceptualization and well-defined goals since inception which is conspicuously absent in case of majority of higher education institutions in India. Most of them have incorporated the ICT tools in education process without clear plans to guide the way. The proper and systematic procedures are essential for the application of ICTs and growth & development of quality educational process. Even the effective utilization of existing ICT facilities and services need appropriate, clear and targeted plans and a vision to move ahead at right pace.

(4)   Awareness-Related Challenges:

Transformation of distance educational system in India through ICTs requires proper knowledge, complete awareness and full involvement of all persons who are directly or indirectly connected with the ICT integration into the educational programs and their implementation. The problem of awareness & attitude issues regarding technologies may act as a crucial element in ICT usage. After almost one decade of using ICT to stimulate development, it is still not fully integrated in development activities; and awareness-raising is still required (World Bank's Info-Devlopment Program, 2002).

The application of ICT tools in education require properly organized awareness programs, seminars, conferences, workshops, field visits, short-term training courses etc. for this process. The effective integration of ICT in ODL actually requires a revolution in thinking process and in teaching and learning activities i.e. changes in the way higher education institutions are planned, managed and organized. The National Mission on Education through information and communication technology (NHE-ICT) bu Governor of India is an important step in this direction.

(5)   Recent Government Policy on ICT incorporation into Education:

The Government of India has emphasized the incorporation of ICT in education in its Vision 2020; and in this direction MHRD undertook several initiatives to ensure spread, development and optimization of ICT tools in Indian classrooms, integrating them with traditional frameworks of knowledge-dissemination. Despite these ICT initiatives of the Government of India, there is still a huge abyss between the projected progress and hard reality. Effective implementation of ICT in education is not merely a vision. Rather, it needs a proper plan, policies and proper implementation especially for the success of MOOCs.

Hence, a stable, committed and visionary political system and a strong government support is the essential pre-requisite for the adoption and dissemination of ICT throughout the length and breadth of the country for socio-economic as well as for distance education development.

SECTION-II

POTENTIAL OF MOOCs IN INDIA

Before the Digital Age, distance learning appeared in the form of correspondence courses during the period 1890s-1920s, and later radio and television broadcast of courses and early forms of e-learning. But the decade of 2000 saw increasing presence of changes in online education or e-learning in distance education; rise in open learning opportunities; and the development of MOOCs. Massive Open Online Courses are the new revolution sweeping the whole Higher Education sector. The concept of Massive Open Online Courses (MOOCs) is characterized by universal participation, cost-free, and admission criteria-free. First MOOC was offered by Stanford professors in late 2011, enrollment quickly increased to 160,000 students worldwide. Starting from the United States, this disruptive concept has taken higher education by storm. Many MOOC providers emerged in 2012 and the New York Times has defined 2012 as "The year of the MOOC". The top five MOOC providers today in the world are (see Table 1):

Table 1 : MOOC Providers

Providers	Enrolment Size
Coursera	30 million
edX	14 million
XuetangX	9.3 million
Udacity	8 million
Future Learn	7.1 million

Source   : https://www.class-central.com/report/mooc-stats-2017/

By the year 2016, the total number of MOOCs has increased to 6,850, from around 700 universities (Yanxuan, 2017) and the total number of learners rose to 81 million in 2017 by adding 23mn in each 2016 and same 23 mn in 2017. MOOCs have no particular enrollment criteria and charge almost no cost to students for allowing online classrooms and hence make a case for a more diverse population.

Despite the optimistic and aspirational declarations of many MOOC providers, these courses are not, as of yet, making education "borderless, gender-blind, race-blind, class-blind, and bank account-blind" (Christensen et al., 2013). Indeed, studies show that a vast majority of the MOOC students are from English speaking country and population (Liyanagunawardena et al., 2013): The majority of MOOC students are already well educated across countries, and the marginalized group in a particular society becomes even more underrepresented in MOOC classroom (Stich and Reeves, 2017). The language, cultural background, economic status, and many others factors shape the MOOC industry in different societies.

As of today, the United States is still by far the country with most MOOC students, which is 36.2% of all MOOC students worldwide followed by India at 13% and China at 9.5% (Yanxuan, 2017) i.e. the top three most populous countries in the world. They offer the biggest MOOC market, though showcase wide differences for individual cultural background and socioeconomic status.

The Indian government has been taking initiatives for the expansion of open education:

(a)   the initial objective was to provide open resources in terms of repositories, libraries, educational media files, e-books, etc. and to be made accessible for everyone.

(b)   Major efforts made in this direction are: (i) National Digital Repository of IGNOU, (ii) Sakshat providing e-content, (iii) Shishya for 11th and 12th Standards of CBSE, and (iv) Vidya Vahini for integration of IT into the curriculum of rural schools.

(c)   Most of these initiatives began with the establishment of dedicated department for making education accessible to as many learners as possible. The common platforms in this way are: (i) Education and Research Network (ERNET) connecting various colleges and schools by providing network connectivity; (ii) EDUSAT, a satellite launched for education, (iii) Consortium for Educational Communication (CEC), (iv) Information and Library Network Centre (INFLIBNET), autonomous Inter-University Centre for connecting university libraries, also it has started several other programs. Moreover, India started to work for online courses and in 2013, the Government of India launched e-PG Pathshala for postgraduate course, and being managed by INFLIBNET of UGC. This is actually a repository of e-content and assessment, rather than being a MOOC.

For India, MOOCs offer an unprecedented mechanism to take high quality education and place it in the hands of every learner, and also to help transform the system by meeting the goals of equity, excellence, expansion and employability Though the technological initiatives towards open education have been appreciable yet the popularity of MOOCs

seems to be a distant dream in India. The private course providers (for e.g. Apna Course and myBskool.com) are expected to operate for profit and hence open education is not their motive. Therefore, government had offered online courses on developing their own platforms. At present, a handful of universities and higher education institutions in India have the wherewithal to support such initiative. Some of these organizations including their platforms/efforts are as follows:

I.   NPTEL

National Programme on Technology Enhanced Learning, a MHRD funded project, was started in the year 2003. It is a joint platform of seven Indian Institute of Technology (IITs) and Indian Institute of Science (IISC) which offered courses on engineering and science in the beginning. Now, it is largest single repository of technical courses in the world offering more than 1200 courses and with 600 more courses on various topics in the pipe-line for the period 2016-2020. It offers the streaming video format with text meta data for videos, text transcription and subtitling, and possible conversions to all Indian languages. With the launch of new courses, they are attempting to operate like MOOC provider by the way of offering lectures, assignments and tests.

II.   MooKIT

Built entirely using open-source technologies by Indian Institute of Technology (IITK) Kanpur in the year 2014, MooKIT is a lightweight MOOC management system. It is specially designed to solve the problem of dealing with low-bandwidth and low-computing power situations using existing MOOC platform. If the bandwidth continues to be low, learner receives a call on the phone and can listen to the audio from there using the calling control provided on the interface. This feature is very helpful for learners belonging to rural areas having just a dumb or basic phone. Along with the instructor, the learners can view their course activities, which are not provided by any other platform. MooKIT offers four types of solutions namely (i) mooKIT Standard (ii) mooKIT Enterprise (iii) mooKIT Replicated and (iv) mooKIT Personal or Mobi-mooKIT.

III.   IITBombayX

IITBombayX, a non-profit MOOC platform developed by IIT Bombay in 2014 using the open-source platform Open edX, was funded under National Mission on Education through Information and Communication Technology (NME-ICT) by Government of India. It offers 63 courses on different subjects from multiple disciplines. In this system prime universities from India are offering MOOC courses to Indian local college learners. This model is named as "Blended Learning - MOOC Model of IIT Bombay (BLMM)". Blended learning refers to both online education methods and face-to-face class room learning. This model provides combination of direct supervision in face-to-face learning and academic freedom with the self paced learning using the online courses. Moreover course completion is not optional but compulsory.

IV.   SWAYAM

SWAYAM or *Study Webs of Active Learning for Young Aspiring Minds* is a MOOC platform launched by MHRD, Government of India, to combine online and offline education

together for launching 2,000 courses. It offers courses for school, certificate, diploma, undergraduate, and post graduate and is the largest course catalogue, among all platforms existing so far. Most of the course content for SWAYAM is the same content that has already been created for NPTEL, which is to be re-purposed for SWAYAM. Also, the content or videos created for this platform are to be made available on a platform called e-Acharya that hosts educational video content created by MHRD. So, SWAYAM is promoting the best use of the resources, which is already a very costly affair. The responsibility of delivering such courses lies with six institutes namely NCERT and NIOS for school education, IGNOU for out-of-school learners, CEC for under-graduate education, UGC for post-graduation education, NPTEL for engineering, and IIMB for management studies. For MOOC courses offered on SWAYAM, learners across the country can get their credits transferred & recognized at the parent institution, unlike other MOOC platforms. An academic institution in India can offer up to 20 percent of its syllabus in a particular program via SWAYAM. Moreover, a credit framework has been finalized that allows the transfer of the credits between institutions.

Hence MOOCs have provided ways for anyone to learn using open resources and networks, and to earn and innovate. The success of MOOCs depends on various factors namely: (a) Quality of courses offered; (b) Affordability of the masses; and (c) Inclusion of the students across diverse educational, economic, social and ethnic backgrounds. MOOCs have raised the bar for the learners and educators to gain and impart education. To execute integration of technology and digital content effectively, it is necessary that technologists, educators, administrators and expert in the field of ODL system in general, and ICTs in particular, come together to achieve the desired goals. The potential of MOOCs depends upon following factors:

1. Effective integration of ICT in ODL system.
2. Awareness about MOOC models and supporting practices/technologies.
3. Involvement of stakeholders to design, develop and implement MOOC environments and content.
4. Adaptation of the MOOC in the system effectively.
5. Effective execution and regular monitoring of inputs and desired outcomes.
5. Use of R&D to continuously improve solutions and reap economies of scales.
6. Cost effectiveness of MOOCs.

MOOCs are online courses aiming at large scale participation and bridging the gap of digital divide using innovative and adaptive learning mechanisms and rich analytics,. Thus, a concerted effort is needed to establish MOOCs as a channel to deliver high quality learning to a wide cross section of learners over the next few years.

CONCLUSION

Open and Distance Learning system has emerged as a powerful instrument of expansion of higher education in. raising its Gross Enrolment Ratio to 30 percent by 2020, and as an effective tool of equity due to its inherent potential of reaching the unreached & disadvantaged

people and as a channel of economy by providing higher education at their doorstep in a cost-effective manner. Nonetheless, Technology can be a *game changer* and can bring about a paradigm shift in the teaching-learning process, evaluation methodologies, and mode of delivery including virtual space. Further with the potential success of MOOCs, the most innovative form of technological progress in education, the quality gap between formal and non-formal modes of education is bound to evaporate. Keeping in view the associated challenges that may restrict and influence its scope alongwith various barriers in the way of incorporating technology, a well-planned and holistic roadmap must be carved for smooth integration of new-age technologies into learning environments .

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Exploring Studying Habits of Distance Learners

Ravneet Kaur

Abstract

The Open and Distance Learning (ODL) System provides flexibility and opportunity to all those who want to seek education but are unable to join formal educational institutes for achieving various goals like better job/ promotional prospects, increasing knowledge, continuing lifelong learning etc. Majority of these students are already playing multi-fareous roles in their personal lives being spouse, parents, employees etc. and each role presents itself with its own challenging duties and responsibilities, apart from the task of getting educated via ODL mode. Yet distance learners come across these hurdles through their studying habits . Hence, the present paper attempts to explore the studying habits of distance learners. This study was conducted at the Department of Distance Education (formerly known as the Department of Correspondence Courses), Punjabi University, Patiala, during the session 2011-12, in which a total of one hundred fifty students were administered a questionnaire consisting of both open and close ended questions.

Introduction

Education is a reward in itself and the Open and Distance Learning (ODL) System provides flexibility and opportunity to all those who want to seek education but are unable to join formal educational institutes for achieving various goals like better job/ promotional prospects, increasing knowledge, continuing lifelong learning etc. Majority of these students are already playing multifarious roles in their personal lives being spouse, parents, employees etc. and each role presents itself with its own challenging duties and responsibilities, apart from the task of getting educated via ODL mode.

The task of getting educated via ODL mode is quite challenging, yet distance learners come across these hurdles with their studying habits. Moreover, students who do not have competent reading skills and study habits may face problems in the distance education

system (Ahsan and Ahmmod 2005).

Biswas (1999) studied the perception of 196 freshers joining IGNOU at the Regional Centre, Calcutta. The students belonged to the eleven different programmes such as, Bachelor of Computer Application (B.C.A. – 33 students), Bachelor of Arts (B.A. – 39 students), Bachelor of Commerce (B.Com. – 18 students), Bachelor of Science (B.Sc. – 12 students), Bachelor of Library & Information Science (B.LIS. – 16 students), Diploma in Computer in Office Management (DCO – 25 students), Diploma in Tourism Studies (DTS – 22 students), Diploma in Nutrition and Health Education (DNHE – 7 students), Post-graduate Diploma in Journalism and Mass Communication (PGJMC – 9 students), Post-graduate Diploma in Distance Education (PGDDE – 6 students), and Masters of Library & Information Science (MLIS – 9 students). It was found out that all PGJMC students along with 75 percent of B.LIS., 55.5 percent of M.LIS., 66.7 percent of PGDDE, 24 percent of DCO, and 28.57 percent of DNHE courses were employed. Almost all employed students had access to newspapers but accessibility with regard to Radio, TV, Computer etc. showed varied difference. Most of the students were aware of IGNOU's programmes telecasted by National Doordarshan Television channel but a marginal number of students were aware about the teleconferencing facility being used by IGNOU.

Boadi and Letsolo (2004) studied information needs and information seeking behaviour of the distance learners along with comments from Lecturers and Librarians also. This study was conducted on 54 distance learners, 8 lecturers and 2 librarians. Both questionnaire and interview techniques were used in this study at the Institute of Extra-Mural Studies (IEMS) of the National University of Lesotho. IEMS is situated at about 34 kilometres from the National University. 90.7 percent of the distance learners studying at IEMS were employed. It was revealed that long distance from the place of residence to the Institute could be a hurdle in distance education. Tests, research projects, examinations and assignments were found to be most important activities to engage students by all the Lecturers. 74 percent students indicated their liking to the relevant information readily found and 64.8 percent liked easy access to the information for studies. 83.3 percent students used the library and 44.4 percent non-users gave the reason of insufficient time to visit the library. 85.7 percent students rated course materials to be satisfactory. It was felt by 24.1 percent of the students that more and better library services should be introduced on the lines of its parent institution.

Ahsan and Ahmmod (2005) analyzed studying habits of 124 students at the School of Business at the Bangladesh Open University. 13 students in this study belonged to the Certificate Course in Management (CIM), 46 students from Post-Graduate Diploma in Management (PGDM), and 65 students were studying in Master of Business Administration (MBA). Difference was found between the study time specified by the institutions and how much time the distance learners were able to devote (Lockwood 1999, quoted in Ahsan and Ahmmod 2005). It was found that 77.4 percent distance learners were employed. The average weekly hours for studying were found to be 13.5 hours for before joining the programme and it increased to 18.2 hours after joining the programme. Family and professional responsibilities were found to be the two major constraints for interruption in studying time.

Ahsan, Hossain, and Saha (2006) surveyed 200 MBA students' characteristics at the Bangladesh Open University (BOU). Respondents belonged to the five different Tutorial Centres of the four Regional Resource Centres (RRCs) of the BOU. Just 9.5 percent students were found to be non-working. 75.5 percent students had joined the course to increase their professional skills. 4.5 percent male students were found 'highly satisfied' and another 44.5 percent 'satisfied' with the services provided by RRCs. Only 0.5 percent female students were 'highly satisfied' along with 1.5 percent 'satisfied' in this respect. 94 percent distance learners rated the quality of the course materials upto the mark but 87 percent were dissatisfied with the time taken in delivering the course material.

Rai (2010) studied various aspects of learning on 123 distance learners of Bachelors of Library and Information Science Course at IGNOU in the Delhi region. These students were offered Self Learning Instruction Material (SLIM) along with multi-media resources. It was revealed that 96 percent of the students showed preference for SLIM rather than audio-video cassettes or programmes relayed through television. 68.3 percent were studying SLIM on daily basis, but audio and video cassettes usage was very low. About 59 percent of the students never listent to the Gyan Vani FM Radio and 63 percent never watched Gyan Darshan Television Programmes. The usage of interactive radio counseling and teleconference facility was also reported to be much low. This study showed that non-print resources were minimally used by the distance learners.

Review of the above literature shows that studying habits of the distance learners differ significantly in relation to the marital status, social class, academic stream, employment status, and experience in distance learning (Kumar / [Kuinar] 1998, quoted in Ahsan and Ahmmod 2005).

 In the present paper, an attempt had been made to analyse the studying habits of the distance learners pursuing Courses through distance mode by seeking admission in the Department of Distance Education, Punjabi University, Patiala.

A Brief Profile of the Department of Distance Education

Punjabi University, Patiala was established in the year 1962 and is the second University in the world named after a language (the first being Hebrew University). The Department of Distance Education came into existence in 1968 and is the second Institute in India to provide non-formal education. It is the first department in the Country to offer education in the regional language. NAAC had provided it a Five Star status. Presently, it offers more than fifty programmes in the Arts, Humanities, Social Sciences, Commerce, Management and IT streams through distance education to approx. fifteen thousand students.

Objectives of the Study

The present paper made an attempt to explore the studying habits of distance learners with the following objectives:

- To identify the studying habits of the distance learners;
- To find out the methods and techniques employed by the distance learners for

the preparation of their examinations;

- To give suggestions for building conducive environment aiming at improving their studying habits.

Hypotheses of the Study

With regard to the objectives of the study, the following null hypotheses were formulated to be tested:

1. Students do not prepare their own notes but rely heavily upon the study material supplied by the department for their examination;

2. Students do not remain in contact with or consult their friends made during PCP classes for study purposes;

3. Students do not visit faculty apart from during the PCPs;

4. Sufficient time is available to submit response sheets ;

5. There is delay in sending back the evaluated response sheets.

Methodology

This study was conducted at the Department of Distance Education, Punjabi University, Patiala, during the session 2011-12. A total of one hundred fifty students of Public Administration of this department were studied with a questionnaire consisting of both open and close ended questions. Fifty students of each class, that is, BA – I, II, and III, were administered questionnaire during the Personal Contact Programmes (PCPs). The data had been analyzed with the help of SPSS software and simple percentage and chi-square test, wherever applicable, had been computed. Chi-square had been tested at 95 percent significance level.

Results and discussion:

A. General Information About the Students:

Tables 1, 2, and 3 provides general information about students:

TABLE 1

SEX AND CLASS WISE CATEGORISATION OF STUDENTS

Sex	Class			Total No. (%)
	BA – I No. (%)	BA – II No. (%)	BA – III No. (%)	
Male	18 (36)	17 (34)	28 (56)	63 (42)
Female	32 (64)	33 (66)	22 (44)	87 (58)
Total	50 (100)	50 (100)	50 (100)	150 (100)

Table 1 shows sex and class wise categorization of the students. Out of 150 students, 63 (42 percent) were male students [18 (36 percent) in BA-I, 17 (34 percent) in BA-II] and 28 (56 percent) in BA-III. There were 87 (58 percent) female students[32 (64 percent) in BA-I, 33 (66 percent) in BA-II, and 22 (44 percent) in BA-III].

TABLE 2

WORKING STATUS OF STUDENTS

Working Status	Class			Total
	BA–I No. (%)	BA–II No. (%)	BA–III No. (%)	No. (%)
Working	14 (28)	23 (46)	31 (62)	68 (45.3)
Non-Working	36 (72)	27 (54)	19 (38)	82 (54.7)
Total	50 (100)	50 (100)	50 (100)	150 (100)

As per Table 2, 68 students (45.3 percent) out of 150 were working, 14 (28 percent) in BA-I, 23 (46 percent) in BA-II, and 31 (62 percent) in BA-III. However, rest of the 82 students (54.7 percent) were non- working which shows that non-formal medium of education had been preferred over the formal education system.

TABLE 3

STUDENTS FROM LOCAL OR NEARBY AREAS

OF PATIALA CITY

Local Status	Class			Total
	BA–I No. (%)	BA–II No. (%)	BA–III No. (%)	No. (%)
Yes	47 (94)	7 (14)	-	54 (36)
No	3 (6)	43 (86)	50 (100)	96 (64)
Total	50 (100)	50 (100)	50 (100)	150 (100)

As per Table 3, 54 students (36 percent) were local [47 (94 percent) in BA-I, and 7 (14 percent) in BA-II]. However, 96 (64 percent) students [3(6 percent) in BA-I, 43 (86 percent) in BA-II, and all of the BA-III class students] were from far off areas. This shows that majority of the students preferred University's Department of Distance Education over the private and other institutions.

B.   Studying habits of the students:

Tables 4 to 13 reveal studying habits of the distance learners along with other related aspects:

TABLE 4

STUDYING ONLY DURING EXAMINATION

Studying	Class			Total
	BA–I No. (%)	BA–II No. (%)	BA–III No. (%)	No. (%)
Yes	10 (20)	9 (18)	11 (22)	30 (20)

No	40 (80)	41 (42)	39 (78)	120 (80)
Total	50 (100)	50 (100)	50 (100)	150 (100)

Data depicted by Table 4 reveals that majority of the students i.e. 120 (80 percent) students [40 (80 percent) students in BA-41 (42 percent) in BA-II, and 39 (78 percent) in BA-III] out of 150 prepared systematically for their examination and didn't resort to short term studying tactics (just one or two months study to pass the exams). However, only minority of students i.e. 30 (20 percent) students preferred cramming that too near or during the examinations period only. Thus, the common misconception that distance learners study for short duration of time and doesn't study thoroughly stands disprove.

TABLE 5

FREQUENCY OF STUDYING

	Class			
Frequency of Studying Class	BA – I No. (%)	BA – II No. (%)	BA – III No. (%)	Total No. (%)
Many times a week	12 (24)	33 (66)	34 (68)	79 (52.7)
Weekends	24 (48)	8 (16)	10 (20)	42 (28)
Fortnightly	9 (18)	-	-	9 (6)
Not on regular basis	5 (10)	9 (18)	6 (12)	20 (13.3)
Total	50 (100)	50 (100)	50 (100)	150 (100)

Table 5 shows the frequency of studying among the distance learners. More than fifty percent i.e. 79 (52.7 percent) students [12(24 percent) of BA-I, 33 (66 percent) of BA-II and 34 (68 percent) of BA-III] confirmed that they studied regularly and many times in a week. 42 (28 percent) students were studying on weekends and 9(6 percent) out of 150 students were studying fortnightly. Only 20 (13.3 percent) students had less frequency of studying.

TABLE 6

TIME DURATION FOR STUDYING PER SITTING

	Class			
Studying Time	BA – I No. (%)	BA – II No. (%)	BA – III No. (%)	Total No. (%)
Studying time in one sitting usually				
I hour	8 (16)	5 (10)	-	13 (8.7)
2 hours	22 (44)	29 (58)	50 (100)	101 (67.3)
3 hours	-	16 (32)	-	16 (10.7)
More than 3 hours	20 (40)	-	-	20 (13.3)
Total	50 (100)	50 (100)	50 (100)	150 (100)

Table 6 reveals duration and the time preference of the distance learners for studying. Majority of students i.e. 101 (67.3 percent) students[22 (44 percent) in BA-I, 29 (58 percent) in BA-II, and all of the BA-III class] had been studying for two hours with only 13 (8.7 percent) students [8 (16 percent) in BA-I, and 5 (10 percent) in BA-II] studying for one hour on regular basis. 16 (10.7 percent) students of B.A.II only were found studying for three hours in one sitting. 20 (13.3) students of BA-I class had been found studying for more than 3 hours in a day.

TABLE 7

PREFERENCE FOR STUDYING PER SITTING

Preferred time to study				
At night	26 (52)	19 (38)	22 (44)	67 (44.7)
Early morning	20 (40)	17 (34)	28 (56)	65 (43.3)
Any time	4 (8)	14 (28)	-	18 (12)
Total	50 (100)	50 (100)	50 (100)	150 (100)

Table 7 shows that 67 (44.7 percent) students [26 (52 percent) in BA-I, 19 (38 percent) in BA-II, and 22 (44 percent) in BA-III class] preferred night time as the best time to study. However, 65 (43.3 percent) preferred to study in the early morning, 20 (40 percent) in BA-I, 17 (34 percent) in BA-II, and 28 (56 percent) in BA-III. Only 18 (12 percent) students had no fixed preference of time to study.

TABLE 8

PREPARATION OF NOTES

Notes preparation	Class			Total No. (%)
	BA – I No. (%)	BA – II No. (%)	BA – III No. (%)	
Making own notes				
Yes	32 (64)	33 (66)	24 (48)	89 (59.3)
No	18 (36)	17 (34)	26 (52)	61 (40.7)
Total	50 (100)	50 (100)	50 (100)	150 (100)
Type of notes prepared[a]				
Detailed	26 (52)	12 (24)	10 (20)	48 (32)
Headings / Points	6 (12)	10 (20)	2 (4)	18 (12)
Both	-	11 (22)	12 (24)	23 (15.3)
Not making	18 (36)	17 (34)	26 (52)	61 (40.7)
Total	50 (100)	50 (100)	50 (100)	150 (100)
[a]Chi-square value: 28.792, df=6, Sig. 0.000				

Table 8 reveals that 61 (40.7 percent) students were found to be depending solely upon the printed notes and study material provided by the Department where as 89 (59.3 percent) students [32 (64 percent) in BA-I, 33 (66 percent) in BA-II, and 24 (48 percent) in BA-III] preferred making their own notes for examination preparation.

Out of 89 students, 48 (32 percent) students were used to prepare detailed notes whereas 18 (12 percent) students were writing headings / points only. 23 (15.3 percent) students used mixed technique for the preparation of their notes. Type of notes prepared was found statistically significant with a chi-square value of 28.792 at df 2.

TABLE 9

DOCUMENTS SELECTED AND STUDIED

FOR EXAMINATION PREPARATION

Documents	Class			Total No. (%)
	BA – I No. (%)	BA – II No. (%)	BA – III No. (%)	
Departmental notes	35 (70)	24 (48)	38 (76)	97 (64.7)
Suggested readings	8 (16)	8 (16)	6 (12)	22 (14.7)
Subject guides	7 (14)	12 (24)	-	19 (12.7)
Studying all the above	-	6 (12)	6 (12)	12 (8)
Total	50 (100)	50 (100)	50 (100)	150 (100)

Table 9 shows the type of documents selected and studied by the distance learners. Majority of the students i.e. 97 (64.7 percent) students were found relying solely upon departmental notes and only 12 (8 percent) students combined all the three above mentioned documents i.e.departmental notes, suggested books and subject guides while preparing for their exams.

22 (14.7 percent) students were studying books prescribed as suggested readings at the end of each lesson / departmental notes whereas 19 (12.7 percent) students were found to be relying only on subjects guides available in the market. The students lamented that purchase of guides is mainly because in many cases booksellers take the advantage and cheat , fleece or misguide them i.e. instead of selling prescribed books, often sell them cheap and substandard guides.

TABLE 10

PURPOSE OF CONSULTATION WITH FRIENDS

MADE DURING PERSONAL CONTACT PROGRAMMES (PCPs)

Friends made in PCPs	Class			Total No. (%)
	BA – I No. (%)	BA – II No. (%)	BA – III No. (%)	
Maintaining Contacts with friends made during PCPs[a]				
Yes	25 (50)	32 (64)	38 (78)	95 (63.3)
No	25 (50)	18 (36)	12 (24)	55 (36.7)
Total	50 (100)	50 (100)	50 (100)	150 (100)
Purpose of consultation				
Calling them for study	-	3 (6)	8 (16)	11 (7.3)
Exchange personal notes	17 (34)	24 (48)	30 (60)	71 (47.3)
Other	8 (16)	5 (10)	-	13 (8.7)
Not consulting	25 (50)	18 (34)	12 (24)	55 (36.7)
Total	50 (100)	50 (100)	50 (100)	150 (100)
[a]Chi-square value: 7.292, df=2, Sig. 0.026				

As per Table 10, a large majority of the 95 (63.3 percent) students continued to remain in touch with their friends made during PCPs. It was found statistically significant with a chi-square value of 7.292 with 2 df. It was a revelation that only minority of students i.e. 11(7.3 percent) students were calling upon each other for study purposes whereas ajority of them i.e. 71 (47.3) percent exchanged only personal notes with the friends. 55 (36.7 percent) did not made either friends or kept any contact with the friends made during PCPs.

TABLE 11

PURPOSE OF VISITING THE FACULTY

Aspect	Class			Total No. (%)
	BA – I No. (%)	BA – II No. (%)	BA – III No. (%)	
Visiting the Faculty apart from during PCPs [a]				
Yes	20 (40)	27 (54)	3 (6)	50 (33.3)
No	30 (60)	23 (46)	47 (94)	100 (66.7)
Total	50 (100)	50 (100)	50 (100)	150 (100)
Purpose of visit				
To inquire about the additional study material	-	8 (16)	-	8 (5.3)

To get suggestions about the important questions	14 (28)	10 (20)	-	24 (16)
For consultation	-	8 (16)	-	8 (5.3)
Others	6 (12)	1 (2)	3 (6)	10 (6.7)
Not visited	30 (60)	23 (46)	47 (94)	100 (66.7)
Total	50 (100)	50 (100)	50 (100)	150 (100)
[a]Chi-square value: 27.420, df=2, Sig. 0.000				

Table 11 shows that only one-third of the students i.e. 50 (33.3 percent) students visited the faculty on different times during the session. It was found statistically significant with a chi-square value of 27.420 at 2 df. The purpose of such visits were either to seek information about related books or for consultation in the case of 8 (5.3 percent) students. 24 (16 percent) students visited faculty to get suggestions about important questions. It is interesting to note that 100 (66.7 percent) students never visited out of which majority were the students of BA-III class.

TABLE 12

PERCEPTION OF THE STUDENTS REGARDING TIME GIVEN TO SUBMIT AND EVALUATION OF RESPONSE SHEETS

Aspect	Class			Total No. (%)
	BA – I No. (%)	BA – II No. (%)	BA – III No. (%)	
Availability of sufficient time to submit response sheets [a]				
Yes	24 (48)	32 (64)	38 (72)	94 (62.7)
No	26 (52)	18 (36)	12 (24)	56 (37.3)
Total	50 (100)	50 (100)	50 (100)	150 (100)
Perception regarding evaluation of response sheets[b]				
0-25%	-	7 (14)	12 (24)	19 (12.7)
25-50%	20 (40)	11 (22)	-	31 (20.7)
50-75%	22 (44)	24 (48)	33 (66)	79 (52.7)
75-100%	8 (16)	8 (16)	5 (10)	21 (14)
Total	50 (100)	50 (100)	50 (100)	150 (100)
[a]Chi-square value: 8.435, df=2, Sig. 0.015 [b]Chi-square value: 34.358, df=6, Sig. 0.000				

Table 12 reveals the perception of the distance learners regarding time available for submission of response sheets and their evaluation. 94 (62.7 percent) students agreed that sufficient time had been given to them for the submission of the response sheets. It was found statistically significant with a chi-square value 8.435 at 2 df. The data indicates

that 19 (12.7 percent) rated the evaluation to be poor whereas 31(20.7 students) termed it as average and also complained that the response sheets were not returned in time. Only 21 (14 percent) students i.e. [8 (16 percent) each of BA-I and BA-II, and 5 (10 percent) of BA-III] showed high degree of satisfaction. It was found statistically significant with a chi-square value of 34.358 at 2 df.

TABLE 13
ASSESSING THE OVERALL RESPONSE OF STUDENTS
TOWARDS SERVICES RENDERED BY DDE

Satisfaction No. (%)	Class			Total
	BA – I No. (%)	BA – II No. (%)	BA – III No. (%)	
0-25%	-	13 (26)	-	13 (8.7)
25-50%	-	5 (10)	12 (24)	17 (11.3)
50-75%	32 (64)	15 (30)	10 (20)	57 (38)
75-100%	18 (36)	17 (34)	28 (56)	63 (42)
Total	50 (100)	50 (100)	50 (100)	150 (100)

Table 13 depicts the overall response of the students towards services rendered by the Department. 13 (8.7 percent) out of 150 students were least satisfied and 17 (11.3 percent) students rated it as average. 57 (38 percent) students had expressed their satisfaction with 63 (42 percent) students showing high degree of satisfaction.

Testing of Hypotheses

All the hypotheses had been found statistically significant with chi-square values (see respective tables) and hence got rejected to be true.

Findings of the study

1. Out of 150, almost half of the (45.3 percent) students were employed.

2. 36 percent of the students hailed from the areas in or around the Patiala city, rest of them were from far flung areas, showing the popularity and preference for the University department over the private or other institutes.

3. 80 percent students maintained that they used to study throughout the session with more than half (52.7 percent) of the students studying many times a week.

4. 67.3 percent distance learners usually studied for two hours per sitting and the most preferred time to study among the distance learners was nearly equal between night (44.7 percent) and early morning (43.3 percent).

5. 59.3 percent students didn't solely relied upon printed material supplied but instead preferred making their own notes for exams preparation.

6. 64.7 percent students relied only on departmental notes to prepare for their

examinations, and 46.7 percent students made their selection of books based on the suggested readings.

7. 63.3 percent students said that they remained in constant touch with and often consulted their friends they have made during PCPs , although, in case of about half (47.3 percent) of the students , the purpose of communication was to exchange personal information only.

8. Only one-third of the distance learners visited faculty in the department for consultation apart from during the PCPs.

9. 62.7 percent students agreed that sufficient time had been given to them for submitting their response sheets. 52.7 percent of the distance learners rated the evaluation of response sheets as satisfactory.

10. Most of the students seemed to be satisfied with the services provided by the department with 38 percent in the range of 50-75%, and 42 percent in the range of 75-100%.

Suggestions

Regular surveys should be carried out to gather the feedback and opinions of the students so as to bring forth necessary improvements in the functioning of the department. Admission process needs to be streamlined. Departmental website should be regularly updated and the vital information like important dates, syllabi, schedule of PCP Classes etc. be uploaded. Students should be encouraged to browse through the departmental website regularly so as to remain updated with the vital and time bound requirements to be fulfilled.

To minimize the problems of delay in the delivery of the lessons or other related material, e-environment should be generated through usage of various ICT tools like e-mail, e-newsletter, bulletin board service, FAQs and concept of virtual classroom be evolved. Though there exists certain inherent problems like fear of competition, fear of loss of professional domain, and demand for constant updating as softwares and information both get obsolete in very short period. But these problems can be tackled through adoption of appropriate cyber safety and security policy measures.

More interaction with the faculty is required. Students should be encouraged to visit the faculty apart from during the PCPs so that they can get their doubts about the course material cleared and can prepare for the examinations with better time and capacity management and cope well with the stress and tension of balancing between varied but equally important responsibilities.

Students often get caught into the web of buying cheap/ substandard guides as either they happen to be ignorant/ unaware or lack time to go for purchasing the books time and again. They should be guided towards reading the quality text and reference books and avoid wasting time, money and efforts on cheap guides. They should also be counselled and encouraged to not only rely upon cramming the notes supplied by the department but should make their own notes after thoroughly reading and understanding the concepts. Response sheets be evaluated fairly and sent back well in time with appropriate comments

and suggestions so that students can improve upon their performance during the final examinations.

Administrative and academic staff of the department needs to trained to handle huge data and to serve and attend the students with polite attitude. Stress management and time management programmes be organized for both academic as well as administrative staff of the department from time to time.

Conclusion

The present paper had studied the studying habits of the distance learners. The majority of the findings were found to be positive. It is required to bring about organizational changes as well as behavioural / attitudal changes. Such innovations can be brought about keeping in mind the time and cost factors as also demands creating an environment conducive to such changes. There is a greater need to inculcate studying habits among the distance learners particularly with regard to preparation of their own notes, reading quality text and reference books, active participation in the PCP classes, holding regular discussions with their friends made during PCPs, and interaction with the faculty throughout the session. In the present times, it can be made more flexible and accessible through usage of both postal and e-means so as to better serve the majority of the distance learners.

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Academic Success Among Distance Learners in Relation to Their Demographic Variables

Mamta Garg and Amanpeet Kaur

Abstract

Distance education has emerged as a result of man's search for education which could be provided to a person at their place and enables them to pursue it at their own pace. The academic success of these learners is the major responsibility of all distance education institutions. But the question 'why some students become successful in distance education and other do not' still prevail inspite of a lot of research on this issue. The demographic characteristics of distance learners may have a role in their success. To identify such characteristics, a study was conducted on a sample of 376 distance learners. Point biserial correlation was employed to see the correlation between academic success and demographic variables, namely, gender, marital status, locale, and their previous experience. Besides, one way ANOVA was used to see the differences in academic success of students in relation to their employment status and economic status. The findings indicated that learners who were younger, unmarried, part-time employed/ unemployed and belonged to low income group scored lesser marks in exams as compared to their counterparts.

INTRODUCTION

Every country has realized the need of educating its population in the real sense of the term. As such it was construed that the formal system of education was not sufficient to meet the increasing demand for education. This led to the search of a via media, which could be alternatively used to expand and fulfill educational needs of all. Instead of bringing the student to the seats of learning, it was proposed to take schools to the students and hence, this concept of distance education came into existence. Distance Education has not only ushered in an era of globalisation but also is emerging as an effective tool to overcome the evils of privatisation and in providing wider access to higher education (Reddy & Tenneti, 2000). Such type of programs can provide learners with a second chance at a

college education. Distance education reaches those disadvantaged learners who are limited by time, distance or physical disability, and, it updates the knowledge base of workers at their places of employment. (UNESCO, 2002)

One can see that education through distance mode has come-up as a viable alternative to the formal education in the recent decade and provides an important means of self fulfilment to the willing learners. However, it is not a smooth sailing for one and all. Out of the aims of distance education, the academic success of a student continues to be the primary concern and the most important goal of education and one of the main area of education research. It is generally emphasized that besides the other objectives of education, the academic performance is the unique responsibility of all educational institutions established by the society to promote a wholistic scholastic development of the learners.

The majority of distance learners are adults beyond the traditional age of undergraduate college attendance. They are returning to education usually for an identifiable reason: to qualify for promotion, to prepare for a new job, because their employer expects it, or even because it's something they now want to finish. They usually have busy lives already, and education must compete with jobs, childcare, household responsibilities, etc.

The success of distance learners is usually looked down on account of its low quality or for some other reasons. It is a matter of curiosity and concern for many to know that what it is that matters in distance education (Kumar,1999). Researchers (Rovai et al., 2008; Wang & Newlin, 2000) have shown that many different factors enhance student achievement in distance education courses such as institution-centered factors, student-centered factors, as well as factors related to the online learning environment. Powell and Convay and Ross (1990) cite "Questions related to why some students succeed and others fail are of both theoretical and practical importance, as distance education moves from a marginal to an integral role in overall educational provision". They further gave the factors which determine the success in distance education:

- ✓ Rating consequences of not passing as serious,
- ✓ Less anxiety and confidence in succeeding
- ✓ Independent in learning
- ✓ Good previous educational experiences,
- ✓ Well organized in terms of time management skills and place of study
- ✓ High aspirations with value of learning more

Besides, many researchers found that age, gender, marital status, employment status etc also make a difference in the academic success of distance learners (Edvardsson and Oskarsson 2008; Lee and Mallik 2014; Luo, Robinson and Detwiler 2012; Oladejo 2010; Powell, Conway and Ross 1990; Russell 2006). Distance learning environments may be more suitable for some students than others (Arbaugh & Stelzer, 2003) and this may be due to characteristics of distance learners.

PURPOSE OF THE STUDY

The study aims at finding the demographic variables of the distance learners which influence their success in distance education.

METHODOLOGY

Descriptive survey method was adopted to carry out this study. A sample of 493 students was taken from various course (which included both the professional and non-professional) offered by two public universities of Punjab. Out of these students, 117 students could not get through the examination. Therefore, the final sample consisted of 376 distance learners. The seven demographic variables, namely, age, gender, marital status, residential status (rural/urban), employment status, economic status (on the basis of family income) and previous experience in distance education, were undertaken. The information about these aspects was collected on the data blank. The academic success was considered as marks obtained by students in their year/semester end examination. This data was obtained from the examination branch of the university. The data was treated with various statistical techniques such as t-test, one way ANOVA, point biserial correlation and Pearson's product moment correlation.

FINDINGS

Age and Student Success

The age of distance learners has a significant positive correlation with their marks in examination (.253, p<.001). It implies that with increase in age of distance learners their marks in examination also increased.

The results is consistent with the previous studies conducted on distance learners as Oladejo (2010), Bowa (2011) and Davis (2014) also reported that age contributed positively towards distance learners' academic performance.

On the contrary Garg and Gakhar (2009) showed that age of trainees in distance education has significantly negative relationship with their performance; Luo, Robinson and Detwiler (2012) found age to be significantly correlated with completion time, showing that older students generally took more time than did younger students to finish the course. Biswas (2001) and Yukselturk and Bulut (2007) revealed that age did not directly affect the success of distance learners.

Gender and Student Success

Table 2: **Values of t-test and point biserial correlation coefficient (r_{pbi}) for marks obtained by successful male and female distance learners:**

Gender	N	Mean	Std. Deviation	$S.E._D$	t-value	r_{pbi}	Remarks
Male	142	57.933	6.548	0.832	1.71	.082	Not Significant
Female	234	59.356	9.561				

No gender difference exist in the marks obtained by successful distance learners (t = 1.71, p> 0.05. The coefficient of point biserial correlation between gender and marks obtained by distance learners was not significant (.082, p>.05). In other words, it may be

said that gender of distance learners did not correlate with the level of their academic performance/success.

Result of the present study in respect of the variable of gender are in agreement with the finding of various researchers (Biswas, 2001; Russell, 2006; Yukselturk and Bulut, 2007; Oladejo, 2010) who also found that gender has no effect on the academic performance of the distance learners. On the contrary, many researchers (Darwazeh, 1998; Sabir, Akhtar, Bahadur, Sajjad and Abbas, 2014) found the gender affected significantly the university academic achievement in distance education in favor of females.

Locale and Student Success

Table 3 Values of t-test and point biserial correlation coefficient (r_{pbi}) for marks obtained by successful distance learners in relation to their locale (rural/ urban)

Locale	N	Mean	Std. Deviation	SE_D	t-value	r_{pbi}	Remarks
Rural	129	59.084	6.980	0.879	.095	-.004	Not Significant
Urban	247	59	9.895				

The locale of distance learners do not make any difference in their levels of success i.e. marks in examination (t = .095, p> 0.05). The same result is indicated by co-efficient of point biserial correlation (-.004, p>.05).

Result of the present study in respect of the variable of locale differ from the previous researchers like Nasir (2012) who found students belonging to urban areas outperformed the students from rural areas because the former group had better facilities than the latter. This finding of the present study may be seen in light of the finding pertaining to satisfaction of rural and urban distance learners where the two groups were at par. It may be said that when the satisfaction level is same it implies that institutional factors had equal contribution towards success and remaining individual factors like intelligence, self-regulation or efficacy, attitude may also be normally distributed in population irrespective of locale. Thus all the factors affecting success of distance learners might be comparable among rural and urban area students, thus their success came out to be at par with each other.

Marital status and Student Success

Table 4: Values of t-test and point biserial correlation coefficient (r_{pbi}) for marks obtained by successful married and unmarried distance learners:

Marital Status	N	Mean	Std. Deviation	$S.E._D$	t-value	r_{pbi}	Remarks
Married	126	61.802	7.880	0.913	4.75	-.239	Significant at .01 level
Unmarried	250	57.465	9.223				

It is evident from the value of t (4.75, p> 0.01) that significant difference exist in marks obtained by married and unmarried distance learners. The point biserial coefficient (0.239) also indicate that level of academic success of distance learners is significantly correlated with their marital status. The higher mean score of former group (M=61.8) as

compared to latter (M=57.46) indicate that married distance learners outperformed their unmarried learners in their level of academic performance.

These findings support the previous studies conducted by Powell, Conway and Ross (1990), Oladejo (2010), and Erdogan, Bayram and Deniz (2008) who revealed that marital status determined the academic performance of distance learners and married students were observed to be more successful as compared to unmarried. This could be due to the reason that married person join education due to their higher aspirations and they have to prove themselves to their family (spouse or children) as Powell et al (1990) mentioned that in distance learning those students became more successful who perceived serious consequences of their failure.

Previous experience in distance education and Student Success

The distance learners were divided into two groups, one who completed their previous course from regular mode thus did not have any previous experience of distance education and another who completed their previous course through distance mode, thus had previous experience of distance mode of learning.

Table 5: Values of t-test and point biserial correlation coefficient (r_{pbi}) for marks of distance learners with respect to previous experience in distance education

Success	N	Mean	Std. Deviation	SE_D	t-value	r_{pbi}	Remarks
Previous experience in Regular mode only	240	58.479	9.584	0.937	1.26	.064	Not Significant
Previous experience in Distance education	136	59.664	8.201				

The value of t (1.26, p>.05) reveals that there exists no significant difference between the means of achievement scores of distance learners who had previous experience in distance education and those who did not have it. The coefficient of correlation r_{pbi} (.064, p>.05) also elucidate that no significant correlation exist between level of academic success of learners and their previous experience in distance education. In other words, it may be said that previous experience in distance education was not found to be a correlate of level of academic success of distance learners.

Employment Status and Student Success

The students were divided into three groups on the basis of their employment status i.e. full-time employed, part-time employed and unemployed.

Table 6: One way Analysis of Variance of marks obtained by full time employed, part time employed and unemployed distance learners:

Marks obtained by learners	Sum of Squares	df	Mean Square	F	Significance level
Between Groups	2301.794	2	1150.897	39.29	.000
Within Groups	10928.788	373	29.29		
Total	13230.581	375			

The value of F (39.29, p<.000) given in table 6 indicates that significant difference exists in the marks obtained by three groups of distance learners having different employment statuses.

To locate the intergroup differences in marks of learners with respect to their employment status taking two at an instance, multiple comparisons were made by employing Bonferroni's Post-hoc test as shown in table 7

Table 7: Multiple comparisons on success levels in relation to employment status using Bonferroni's Post-hoc test

Employment Status	Employment Status	Mean Difference	Std. Error	Significance Levels
Full Time	Part Time	8.36318[*]	2.03725	.000
	Unemployed	6.43376[*]	.99927	.000
Part time	Unemployed	-1.92942	1.97804	.991

It is evident from the values given in table 7 that students who were full-time employed scored significantly higher marks in comparison to both part-time employed (with a mean difference of 8.36) and also than unemployed group (with a mean difference of 6.43). No significant difference was observed in mean scores of part-time employed and unemployed distance learners. Thus, full-time employed students outperformed both the part-time employed and unemployed students.

Results of the present study in respect of the variable of employment status supported Oladejo (2010) who also found that employment status determined the academic performance of distance learners but contradicted the findings of Ergul (2004) who reported that employed/unemployed were not significantly correlated with academic achievement.

Economic status and Student Success

The students belonging to families with different income groups i.e. low (<20000 per month), middle (20000-50000) and high (>50000) were compared:

Table 8: One way Analysis of Variance of marks obtained by distance learners with respect to economic status

Marks of learners	Sum of Squares	df	Mean Square	F	Significance level
Between Groups	404.000	2	202.000	5.87	.01
Within Groups	12826.581	373	34.38		
Total	13230.581	375			

The value of F (5.87, p<.01) is significant at .01 level which imply that significant differences exist in the marks obtained by three groups of distance learners belonging to low, middle and high economic status.

Table 9: Bonferroni's Post-hoc test on marks of learners in relation to economic status

Economic Status	Economic Status	Mean Difference	Std. Error	Significance level
Middle	Low	3.467*	1.383	.039*
	High	1.021	2.289	1.000 ns
High	Low	2.446	2.322	.881 ns

The difference in means of middle and low income groups of learners indicates that students belonging to middle income group scored significantly higher marks in exams than low economic status group (p=.039, <.05). The students of high economic status neither differ significantly from middle group (p=1.000, >.05) nor from low economic group (p=.881, >.05) in their marks. The students belonging to middle class families performed better than low income group students.

These results imply that economic status of distance learners make a difference in their marks i.e. level of success.

Result of the present study in respect of the variable of economic status in distance education is consistent with Bowa (2011) who revealed that income had a significant relationship with academic performance of learners in the course and Nasir (2012) who found that grades of learners increase with increase in the family income.

The results obtained for level of academic success of distance learners with respect to their background variables indicate that out of seven background variables namely, age, gender, locale, marital status, previous experience in distance education, employment status and family, four variables, namely, age, marital status, employment status and economic status found to be associated with the level of academic success/performance of distance learners. The remaining three variables which comprised gender, locale and previous experience in distance education did not emerge as correlate of distance learners' academic success.

DISCUSSION OF THE RESULTS

Though academic success of distance learners largely depends upon the hard work and efforts which they put on their distance education course but there are some

entry characteristics which may also influence the grade score of these learners to some extent. Generally, in distance education, those learners come, who either missed the chance to study in regular institutions due to their personal reasons like less merit to avail seat in regular course (more true in case of young distance learners) or are limited by time due to family/job responsibilities (mostly adult learners) or have limitation due to physical disability or geographical distance. Thus in distance education, learners have typical characteristics which put impact on their success in distance education. Knowles (1990) endorsed that learner behaviour is influenced by a combination of learner's needs, situation and personal characteristics. Learner's personal circumstances can therefore greatly affect participation and success in distance learning.

The results of the present study showed that some of distance learners' background-variables with which they enter in distance education influence their academic performance. These included their age, marital status and employment status. It was found that age has a significant positive correlation with academic success. These results are in consonance with findings of previous studies (Bowa, 2011; Davis, 2014; Oladejo, 2010). The relation of age with academic success may be understood by the explanation given by Gibson and Graft (1992) who opined that higher levels of success for older students were based on maturity, self-discipline, life experience and financial responsibility for their educators. Burt (1996) explained the higher grades of older students in distance education as the latter have more educational experience thus may have more experience with success, which give them higher confidence level. Another explanation was forwarded by Guernsey (1998) found that in comparison to adult learners, younger students tend to have difficulties in distance learning courses.

It was also found that learners who were married, had full time employment and those belonging to middle income group scored more than their counterparts. There is definitely some strong driving force (motivation) to pursue education after marriage or with employment because it is very difficult to carry out dual responsibilities i.e. family/job and studies. This motivation may lead to better academic performance. Powell et al (1990) mentioned that in distance learning those students became more successful who perceived serious consequences of their failure. Married learners and fulltime employed have more responsibilities and more oriented and they may perceive their success as very essential to achieve their goal so as to for which they got the second chance to continue their education.

Gender has no significant relation with success of distance learners, as being male or female doesn't matter with their success or grade achievement. Result of the present study in respect of the variable of gender are in agreement with the finding of various researchers (Biswas, 2001; Russell, 2006; Yukselturk and Bulut, 2007; Oladejo, 2010) who also found that gender has no effect on the academic performance of the distance learners. Rugendo (2014) reported that the students were in agreement that both genders can perform well since the university does not discriminate in any way.

It was also found that the place or locale of distance learners that is learners from rural background or urban areas does not have any effect on student success. Though in

distance education students come from near and far, from all corners to study, equal facilities are provided by distance education institutions to all the learners regardless of their locale, be it learning material or other academic support. Further, the results pertaining to previous experience in distance education showed that it was not related with student success, as all course have their own set goals and boundaries. In the literature of distance education it was well established that students with an internal factors are more likely to be successful than students with an external control (Dille & Mezak, 1991; Parker, 1999). Motivation has a great importance in student achievement and continuity (Murphy, 1989; Oxford et al., 1993; Sewart, Keegan, & Holmberg, 1983). Along with this, higher self-efficacy beliefs of distance education correlate with higher academic achievement (Joo, Bong & Choi, 2000). Thus, gender and locale of distance learners which are not controlled by distance learners themselves did not make any difference in their success as male and female learners or learners from rural and urban areas might be having equal level of motivation, self-efficacy and other internal factors which determine success. These aspects call for further research to exactly know the intervening variables of success among distance learners.

IMPLICATIONS

It is the responsibility of institutions offering distance education that these identify characteristics that enable students to be successful and address their diversity in delivery system so that each distance learner accomplishes his/her goal. It was found that learners who are younger, unmarried, part-time employed/unemployed and belonged to low income group scored lesser marks in exams as compared to their counterparts. It may be due to low motivation or lack of self-regulatory skills. These findings demand the effort on the part of the instructor/teacher to provide necessary support to these distance learners to work on their motivation and self regulatory skills. It necessitates that proper orientations should be provided to the novice learners in distance education and expectations of these learners should be identified and accordingly arrangements should be made to cater to their needs.

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M-Learning : Ethical Considerations for Distance Education

Manju Gera and Sanju Verma

Abstract

M-learning or mobile learning is described as learning over multiple backgrounds, along both the social and content cooperation, operating the electronic gadgets. It is the part of informal learning. M-learning technologies involve various devices like, notebooks, mobile phones and tablets and various other devices. M-learning concentrates on the flexibility of the absorber and the cooperating with convenient technologies. There should be ethics for the use of technology for learning. For this there should be some regulation for technology devices.

1.   Introduction

Mobile learning is the distribution of learning, education or learning reinforce on mobile phones, PDAs or tablets and other electronic handheld gadgets. There are new mobile technology, such as hand-held based devices, is performing a substantial part in enumerating how we gain knowledge. The simultaneous encouragement in mobile technology is revising the principal motivation of mobile devices from making or receiving calls to reclaiming the latest information on any subject. "Numerous agencies including the Department of Defense (DoD), Department of Homeland Security (DHS), Intelligence community, and law enforcement are exploiting mobile technology for information management." [1]
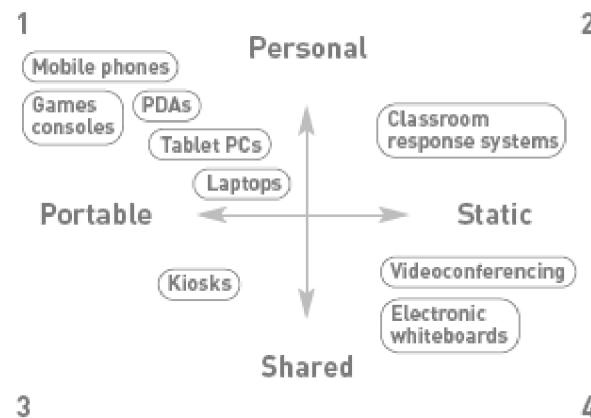
Figure 1: Classification of mobile technologies [1]

Savill et al. [6][8] report says that tutors who have used M-Learning programs and techniques have made the following value statements in favor of M-Learning.

- It is important to bring new technology into the classroom.

- Devices used are more lightweight than books and PCs.

- Mobile learning can be used to diversify the types of learning activities students partake in (or a blended learning approach).

- Mobile learning supports the learning process rather than being integral to it.

- Mobile learning can be a helpful add-on gadget for students with remarkable needs. However, for SMS and MMS this might be hanging on the students' discrete infirmity or difficulties involved.

- Mobile learning can be used as a 'peg or holder' to re-commit dissatisfied person.

According to Attewell (2005) as quoted by Yousuf (2007) and Becking et al (2008), there are several precedence's intrinsic in mobile learning over Internet:

- helps for improving literacy and numeric skills

- helps for recognizing their existing abilities

- can be used for independent and collaborative learning experiences

- helps for identifying where they need assistance and support

- helps to overcome the digital divide

- helps for making learning informal

- helps learners to be cornerstone for lengthy periods

- helps to raise self-esteem and self-confidence

- it is convenient from one place to another
- more wide spread and popular than Internet
- not much technological pre-requisites
- cost is pretty affordable as comparatively less recurring cost and one-time investment
- provides real time and location Liberace

The common drawbacks of distance learners can be summarized as follows:[6][8]

- Lack of personal contact and immediate instructor feedback that some learners prefer (Brown, 1996; Carr,   2000; Garland, 1993; McGivney, 2004)
- Sense of isolation (Galusha, 1997; Gibson & Graff, 1992; Heverly, 1999; Sweet 1983; Wojciechowski & Palmer 2005)
- Requirement of pre-course orientation to help manage   courses (Ashby, 2004)
- Requirement of the tutor support counseling sessions during course of study (Ashby, 2004)
- Improved information and formative advices (Ashby, 2004)

Learning and teaching with mobile technologies is beginning to make a breakthrough from small-scale pilots to institution-wide implementations. In order for these implementations to be successful, educators and technology developers must consider the following key issues:

- Context: gathering and utilizing contextual information may clash with the learner's wish for anonymity and privacy.
- Mobility: the ability to link to activities in the outside world also provides students with the capability to 'escape' the classroom and engage in activities that do not correspond with either the teacher's agenda or the curriculum.
- Learning over time: effective tools are needed for the recording, organization and retrieval of (mobile) learning experiences.
- Informality: students may abandon their use of certain technologies if they perceive their social networks to be under attack.
- Ownership: students want to own and control their personal technology, but this presents a challenge when they bring it in to the classroom. (Naismith, et al: 2008).

J. Gregson et al. [2] suggested that E-Learning tools and approaches, that make benefit of e-mail, Online Learning Environments (OLEs) and courseware CD-Roms have been evolved, and the approach hurdles faced by students have always been an important consideration. As e-learning view of points have been included, there has been a issue that students based in developing countries where internet and email access is more limited are the minimum likely to fully benefit. This step concerning use of e-learning, has brought significant enhancements, but similarly it has designed a degree of deactivation with some of our learners.
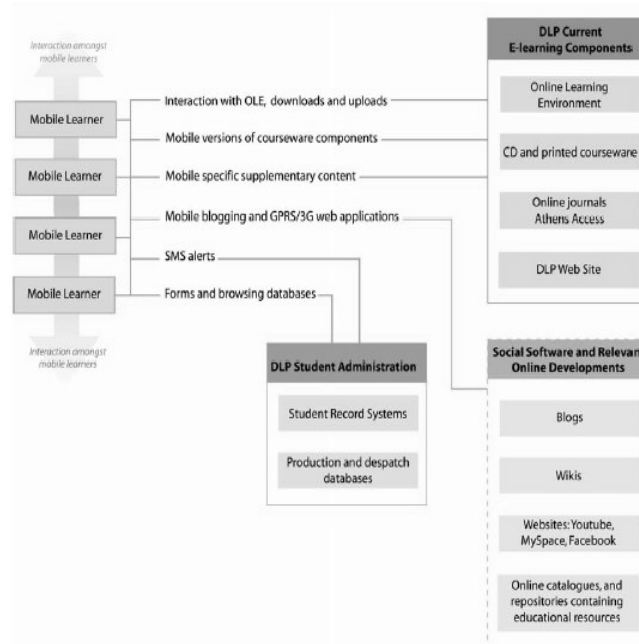
Figure 2: Developing the environment for mobile learning [2]

Mobile technologies prompted students to be capable to study in new ways when they switch and transfer between technologically different locations. Laptop computers yield an model of this, and alter work and study, particularly when wireless connectivity benefits connection to the Internet. Mobile phones take this a point further, and particularly for students based in developing countries where Internet diffusion is limited, this can make a major difference.

M-learning offers the potential to look at a design model for distance learning that starts with what 'Communication for Development' pioneer Don Snowden referred to as 'the first mile'. As connectivity improves the mobile learner becomes empowered to

- take their own responsibility for learning anywhere and anytime
- interact with and learn from fellow students globally
- access formal and informal learning environments and social software
- engage in the process of creating learning resources make use of personalized mobile technologies, that have utility in different learning contexts (e.g. University, workplace, social spaces) [2]

Y. Mehdipour et al. [6] Mobile technologies are an attractive and easy means to maintain literacy skills and gain constant access to information. They are affordable, can be easily distributed and thus hold great potential for reaching marginalized groups and providing them with access to further learning and development. Mobile technologies facilitate distance learning in situations where access to education is difficult or interrupted because of geographical location or due to post-conflict or post-disaster situations.

Mobile devices and personal technologies that can support mobile learning include: [6]

- *E-book*
- *Out start, Inc.*
- *Handheld audio and multimedia guides, in museums and galleries*
- *Handheld game console, modern gaming consoles such as Sony PSP or Nintendo DS*
- *Personal audio player, e.g. for listening to audio recordings of lectures (podcasting)*
- *Personal Digital Assistant, in the classroom and outdoors*
- *Tablet computer*
- *UMPC, mobile phone, camera phone and Smart Phone*

1.   Requirements for Mobile Technology

The baseline requirements for mobile technologies that support learning outside of school settings. These technologies should be: [6][3]

1) **Highly portable:** The technology is available whenever the user needs to learn.

2) **Individual:** The technology can be personalized to suit the individual learner's abilities, knowledge and learning style, and is designed to support personal learning rather than general office work.

3) **Unobtrusive:** The learner can capture situations and retrieve knowledge without the technology becoming overly noticeable or imposing on the situation.

4) **Available:** The learner can use the technology anywhere, to enable communication with teachers, experts and peers.

5) **Adaptable:** The technology can be adapted to the context for learning and the learner's evolving skills and knowledge.

6) **Persistent:** The learner can use the technology to manage learning throughout a lifetime, so that the learner's personal accumulation of resources and knowledge will be immediately accessible despite changes in technology.

7) **Useful:** The technology is suited to everyday needs for communication, reference, work and learning.

8) **Easy to use:** The technology is easily comprehended and navigated by people with no previous experience using it.

2.   Ethics in mLearning

- Accessibility
- Inclusion
- Security

- • Personal Time and Space
- • Cultural Change/ resistance
- • Professional Standards
- • Institutional Support
- • Research Ethics
- • Monitoring

All of these ethics should be considered while starting any distance education program which is online. [8]

3.   The MOTILL Project (2009-10)

The project focuses on the use of mobile technologies as a key factor to develop flexible LLL frameworks for education and training. Moreover, as long-term, the MOTILL aims to involve policy makers that should sustain the strategic plans and learning activities based on the results of the project, and promote an increase in the rate of people involved in training programs. [7]

Some of the main results of the project are:

- • an up-to-date survey on the use of mobile technologies in learning and training projects in the partners' countries; this survey takes into account also the policies set up in the various countries by the relevant institutions;
- • a methodological framework to analyze and highlight best practices in this context. This framework identifies the key factors to assess and the main indicators to consider, and establishes the principal criteria for constructing the evaluation grid;
- • an open space for public discussions, involving public and private institutions, research centers, educators, and trainers, on the impact of Information Society Technologies (IST) on the future of LLL [7].

4.   Conclusion

When we consider ethics in mLearning then we come across with responsibilities, outcomes and personal development like issues. Ethics are the central part of these issues. A tool should be generated from these issues so that tailored methodological framework can be generated which includes ethical consideration in mLearning for distance learners.

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Gender and Its Effect on Novelty and Creative Aspect of Distance Education Teachers

Prabha Vig and Komal Sharma

Abstract

Purpose-The purpose of the study was to determine whether gender has effect on novelty and creative aspect of novice teachers.

Method- N=300 as novice teachers were identified as sample for the present study. 150 males and 150 females were drawn as a sample studying through the mode of distance education. Data was collected through a self-made questionnaire. Mean, ANOVA and t-ratios were employed to determine the effect of gender on novelty and creative aspect.

Results- The findings of the study revealed that novice teachers exhibit significant differences on the creative aspect at 0.01 level and for novelty at 0.05 level.

Conclusions- Distance education students are able to create variations in various domains and disciplines but lag behind in application prospects because their mode of education is not based on their day-to-day interactions with teachers, peers and so on. The findings of this study were supported by the research work conducted by **Perkins (1981);** who conceived creative aspect of an individual as a variation in conceptualizations of various domains and disciplines. He further advocated that creative aspect varies with applied and non-applied contexts. The present study findings are also consistent with the research findings of **Claxton (1997);** who advocated that above average novelty seekers needs stimulation because they have to distinguish, challenges that one can met with cleverness, focus on deliberations because it can be handled only with patience, intuition and relaxation. No doubt the present findings show significance at 0.05 level which are indeed too less for teachers of present era where knowledge is increasing manifolds day-by-day.

1.0   INTRODUCTION

For a layman, novelty means surprising, unusual, different and new information. But, going by the aspect of teaching and learning, novelty lies in expectations and experiences of students learning to become teachers of tomorrow. On the other hand, creative aspect is the inner potential of an individual which gets improved by being aware. This means novelty and creative aspect are the motivating factors for teachers of today. But, it is visualized that teachers of today and would be teachers of tomorrow are lagging behind in both these aspects because of the fixed syllabi and that too extra large. So, these are some of the reasons which made a necessity to explore teachers' novelty and creative aspect especially when the teachers are drawn from distance education program. It is learnt that, they are not provided with experiences which have everyday variety, discussion and conclusions. So, this missing gap makes the teacher rigid who lag behind in flexibility of ideas. Further, the experiences faced by the teachers vary in accordance to the subject they teach and study and reading motivation they possess. **Morrow (1997)** witnessed creativity as willingness to try new things whereas **Hidi (2001)** conceived novelty among students as learning promoted by student learning involvement and achievement.

Further, teaching as a professional career witnessed gender as an equalizer for women **(Sullivan** and **Meek, 2012).** In teaching as a career, women and men express differently on the ventures and activities which represents novelty and creative aspect. A growing number of studies have shown that women exhibit lower creative aspect than men [**Lau** and **Li (1996**); **Potur** and **Barkul (2008); Bourke** and **Adams (2011**); **McNair (2012)]** and an equal number of studies **[Scholastic** and **Yankelovich (2008); Sheorey** and **Mokhtari (2001); Vysal (2008); McGeown (2012)]** have shown gender variation in novelty aspect of novice teachers.

For the present study, the novice teachers were drawn from distance education programs where they have gone with less number of interactions, discussions and participation with teachers as experts and mentors. Keeping the nature of distance education programs in mind, the researchers felt that novelty and creative aspect of learning can be a missing feature among novice teachers and it must be worked out. Keeping this in mind the present study was planned and worked out.

2.0   OPERATIONAL MEANING AND DEFINITIONS OF THE TERMS USED

For a better understanding and appreciation the following terms are defined in accordance to the undertaken study;

- Gender- It refers to the characteristics commonly associated to males or females
- Novice Teachers- As would be teachers' studying by mode of distance education.
- Novelty- It is a learning outcome which depends upon tapping thrill, change of routine, surprised by something new and different.
- Creative Aspect- It is an asset for being successful by concentrating on individual differences; expertise to try new things and greater awareness.

3.0 REVIEW OF RELATED LITERATURE

The related literature for the present study is presented under the headings:-

Review related to novelty; review related to creative aspect and review related to relationship of gender with novelty and creative aspect.

3.1 Review Related to Novelty

Hidi (2001) explored that novelty has an impact on students' learning by promoting student learning involvement and achievement.

Holden (2004) conceived novelty as a 'creative activity', shaped by readers' expectations, experiences as well as the social contexts in which it takes place.

Nouri, Erez, Rockstuhl and **Ang (2008)** regarded novelty of ideas as elaboration of usefulness and appropriateness.

Miles (2010) conceived learning process as; subject matter, content knowledge, novelty and solid understanding of reading.

Going by the above reviews, it can be concluded that novelty in learning process changes in accordance to readers' experiences and expectations by elaborating the learning process with usefulness and appropriateness and that according to the needs and requirements of an individual.

3.2 Review Related to Creative Aspect

It is a style of response associated to greater awareness, exploration and willingness to try new things which provides self-confidence to an individual.

Cattell (1971) regarded creativity as a particular ability for problem solving activities, problem seeking and problem finding.

According to **Perkins (1981);** creative aspect of an individual create variations by laying thrust on conceptualizations, domains, disciplines that bear on study, empirical methods and levels of analysis, as well as research orientations that are both basic and applied and applied in varied contexts.

Gibby (1983) conceived creative aspect as; new, different, unexpected ideas, firsthand experience, problem solving, wide and deep analysis of a problem or a situation. He further stressed creative thinking as a mean of producing something new for people. A creative person should possess intelligence, awareness, originality, persistence and nonconformity.

Shukla and **Sharma (1987)** conceived creative expression as a unique production and process responsible for some creative contribution in the field of thinking, science and technology.

Boden (1990) stated creativity as an ability to synthesize and combine data and information which requires confidence to take risks.

Garrison (1997) described creative aspect as a mean towards greater awareness of the subject matter and responsibilities in making learning more meaningful.

Özcan (2010) examined correlation of creativity with current thinking and learning. The results of his study showed that creative thinking abilities and relationships are affected by teaching learning strategies such as; reading with interest and quality with learning.

Samantaray and **Tripathi (2010)** highlighted that innovation and creativity among teachers helps to create and maintain healthy work environment among teachers. They further stressed that unhealthy work force with no creativity and innovation lead towards poor outcomes and poor morale among teachers.

Reilly and Kronish (2011) conceptualized creativity as divergent way of doing things, conflictzing and subject to diverse perception of any human activity.

McNair (2012) recommended that creativity is inspired by personal motivation which an individual gets from educational experiences and his engagement levels with the classroom and learning activities.

Al-Hattami, Muammar and **Elmahdi (2013)** embarked that creativity and innovation in teaching encourages teachers to become outstanding by concentrating on domain and thus enhancing the learning outcomes simultaneously.

Khany and **Boghayeri (2014**) conceived creativity as an asset for being successful. He further highlighted that teachers' creativity index can be assessed on three main components; individual differences; expertise and management.

At last, it can be concluded that creative aspect for a teacher is a path attained to deal with knowledge and subject matter in a way which is original and new. This means novice teacher by following and adopting new and novel methods contributes towards greater awareness and enhanced potential.

3.3   Review Related to Relationship of Gender with Novelty and Creative Aspect

Allport, Vernon and **Lindzey (1970)** conducted research on graduate students and found that males scored higher on scales of theoretical, economic and political issues whereas females scored higher on scales of social, religious and aesthetic issues. The findings of the study further highlighted that men exhibit higher creativity towards subjects related to mechanics, science, mathematics, business management and medical sciences.

Featherstone (1993) and **Bransford et al (2000)** advocated that novice teachers have a wealth of information from their training as well as they have a vast memory of their own teachers and classroom settings in which they have learnt. Therefore these memories play a crucial role for novice teachers to create something new from these and develop their own persona.

Lau and **Li (1996)** examined 633 Chinese students studying in the schools of Hong Kong. The findings of the study reflected that boys were more creative than girls.

Anderson (2007) observed gender differences in creativity which used involve technology and its consequent impact on learning both at home and institutions. His study noted that young people experiment with technology and use abilities related to information processing, reflective and critical thinking, creative and meta-cognitive skills.

Potur and **Barkul (2008)** examined issues related to creative thinking. The findings of this study reflected that women under-represent creative fields because of their physical and psychological differences. The study further revealed that girls and women remain substantially under-represented in mathematics, science and technology in school and at their workplace.

Saha (2010) conducted research to determine creativity in relation to sex, socio-economic status and environment. The findings of the study revealed that male and female do not differ significantly in their creative aspect.

Mishra and **Yadav (2012)** reviewed the working of male and female pre-service teachers and noted that gender contributes towards emphasizing dimensions such as; aesthetic, job related ideas, self-confidence and so on. The results of the study further revealed that males are better than females on aspects such as; novelty, self-confidence because of their nature consisting of freedom and autonomy.

4.0 RATIONALE OF THE STUDY

The concept of novelty and creative aspect has psychosocial connotations. So, most of the research work based on these concepts have psychological and sociological overtones. Researchers like; [**Cattell (1971); Perkins (1981); Gibby (1983); Shukla** and **Sharma (1987); Boden (1990); Garrison (1997); Özcan (2010); Samantaray** and **Tripathi (2010); Reilly and Kronish (2011); Al-Hattami, Muammar** and **Elmahdi (2013); Khany** and **Boghayeri (2014**)] have studied creativity as knowledge creation and exploration of new ways for doing things. But according to **Oslo (2005);** creativity is an ability to combine knowledge across science to technology; arts to design, arts to craft design, science to research and entrepreneurship. This diverts our attention that creativity is an application of knowledge which has a utilitarian sense. This means that this could be applied in teaching and learning situations by teachers who are in the habit of creating originality by a unique expression of doing things. On the other hand, novelty is not a unidimensional idea and cannot be measured under single aspect. The present study studied novelty under aspects such as; change from routine, surprise, thrill, boredom alleviation. Going by the study conducted by **Lee** and **Crompton (1992);** who proposed six dimensions of novelty but ended up with four viz; 'thrill', 'change from routine', 'boredom alleviation' and 'surprise'. They further stressed that thrill incorporates an experience where as excitement is an essential element required to change from routine works with something new and different than the ordinary, whereas boredom alleviation involves stimulating activities that satisfy an individual's need for something out of the ordinary and surprise relates to the unexpected difference between perception and reality. Taking these four dimensions into consideration, a self made questionnaire was planned used to measure novelty and creative aspect by making statements related to these aspects. The present study takes into consideration four aspects of novelty ranging from; change from routine, surprise, thrill, boredom alleviation and an equal number of dimensions for creative aspect also viz; greater awareness, willingness to try new things, new ways to think and perform, divergent ways of doing things. Taking these into consideration, a tool was used to study novelty and creative aspect of novice teachers. The studies conducted by [**Hidi (2001); Holden (2004); Nouri, Erez,**

Rockstuhl and **Ang (2008)**; **Miles (2010)]** reflected only one dimension of novelty but not their co-joint effect. Further, these studies were not conducted on teachers especially novice. So, it was felt that there was need to work on creative aspect and novelty as a whole. It was presumed when they are studied in relation to the extent to which gender at its two levels; male or female vary; it can give results which can help the teachers and educational planners to plan education which bring out the best of these aspects among teachers' of today and tomorrow.

5.0   STATEMENT OF THE PROBLEM

The title for the present problem is precisely stated as;

Gender and its Effect on Novelty and Creative Aspect of Distance Education Teachers

6.0   OBJECTIVES

√   To work out gender differences among novice teachers on novelty.

√   To identify gender differences on the creative aspect among novice teachers.

7.0   HYPOTHESES

√   No significant differences will be observed among male and female novice teachers on aspect of novelty.

√   No significant differences will be visualized among male and female novice teachers on the creative aspect.

8.0   DESIGN OF THE STUDY

The present study was conducted as per requirement of factorial design in which the effect of gender as an independent variable varies at two levels (S1 and S2) and was studied on dependent variables viz; novelty and creative aspect.

9.0   STATISTICAL TECHNIQUES USED

t-ratios and Analysis of Variance as statistical tools were employed for testing the hypotheses.

10.0   QUESTIONNAIRE AS A TOOL

To measure novelty and creative aspect of novice teachers a self made questionnaire was developed which consisted of 3 parts.

Section-A pertained to background variables- It includes name, gender (male or female), address, education and qualification and marital status; section-B- consisted of twelve statements emphasizing on; tapping of thrill, change of routine, surprising with new and different information; section-C consisted of twelve statements concentrating on; individual differences, expertise to try new things and greater awareness. In total, there were 24 statements and all responses to them were collected on Likert 5-point scale ranging from 1-strongly disagrees, 2- disagree, 3-undecided, 4-agree and 5-strongly agree. The content validity was checked by 06 experts and reliability of the tool was measured by employing Cronbach Alpha method and it came out to be 0.91.

11.0   METHODOLOGY AND RESULTS

11.a   Analysis for the Main Effects of Gender on Novelty

Table-1

Summary table Indicating Effect of Sex (S) on Novelty

Symbol	Sum of squares	df	Mean square	F-value	p value/Remarks	Level of sign.
S	91.176	1	91.176	8.244	0.040/SD	0.05

The above table reveals that main effect of S is significant at 0.05 level. As the F-value (8.244) for gender was significant, it was considered necessary to find direction of variance, so t-value was calculated.

Table-2

t- ratio for Variable Sex (S)

Symbol	N	Mean	SD	SEM	Treatment Level	t-Value Remarks	p value/	Level of sign.
S1	174	12.46	4.946	0.169	S1-S2	-4.318*	0.044/SD	0.05
S2	126	15.33	2.049	0.104				

*Significant at 0.05 Level of Confidence

The table-2 deals with direction of variance and it indicates that t-ratio (-4.318) for differences between means of two levels of sex is significant at 0.05 level which shows that male teachers differs on novelty than female novice teachers. Further, from the table observation of means for gender levels given in the above table shows that mean values of S1 (M=12.46) were slightly less than that of S2 (M=15.33).Thus, it can be inferred that the novice male teachers have scored significantly higher on novelty as compared to their counterparts.

11.b   Analysis for the Main Effects of Gender on Creative Aspect Among Novice Teachers

Table-3

Summary Table Indicating Effect of Sex (S) on Creative Aspect

Source of Variation	Symbol	Sum of squares	df	Mean Squares	F-Value	p value /Remarks	Level of Sign.
Sex	S	241.203	1	241.203	13.090	0.000/SD	0.01

The above table reveals that main effect of S is significant at 0.01 level. As the F-value (13.090) for gender was significant, it was considered necessary to find direction of variance, so t-value was calculated.

Table-4

t-ratio For Variable Gender (S) On Creative Aspect

Levels	Symbols	N	Mean	SD	SEM	Treatment Level	t-ratio	p value/ Remarks	Level of sign.
Females	S1	174	16.21	4.736	0.387	S1-S2	-3.491**	0.001/SD	0.01
Males	S2	126	18.00	4.142	0.338				

** Significant at 0.01 Level of Confidence

To examine the differences between male and female novice teachers, t-test was implied. t-ratio was calculated which indicated that t-ratio for treatment level (S1-S2) is **-3.491** which is significant at 0.01 level. Thus, it can be inferred that male teachers (M=18.00) scored significantly higher on creative aspect as compared to female novice teachers (M=16.21). This may be because of greater variability in t-ratio of male and female novice teachers.

11.0   CONCLUSION

The findings of the study demonstrate that females are under-represented in creative activities because of their less ability to make insights or visions with respect to creative aspect and novelty. Our findings for creative aspect and novelty are quite surprising because young women as novice teachers show no positive affect toward creative aspect and novelty relative to men as novice teachers. These findings suggest that, females find thought of creative aspect and novelty in teaching very less to generate feelings of excitement or anxiety as compared to men. These findings were supported by the study conducted by **Potur** and **Barkul (2008);** who found that women under-represent creative fields of learning because of their physical and psychological differences. The study further revealed that girls and women remain substantially under-represented in mathematics, science and technology in school and at their workplace. The findings of the present study are in contrast with the findings of **McGeown (2012);** who worked on **s**tudents to examine sex differences in reading motivation. The results of his study further revealed that girls have significantly higher level of reading interest because of their; curiosity and involvement. On the other hand, boys read more of male oriented books as compared to females who usually read female oriented books.

12.0   DISCUSSION AND IMPLICATIONS

Our findings not only collaborates with prior work demonstrating significant gender differences in novelty and creative aspect of teachers, but also extend the understanding of key dependent variables of the study viz., creative aspect and novelty. As our study revealed significant gender differences among novice teachers with respect to creative aspect and novelty. So, it can guide the future researchers to make sense of these findings by incorporating the findings and aspects of the study in planning curriculum and activities

for teachers under preparation and novice teachers. Further, it is believed that the results of the study shall provide an insight to novice teachers, how to improve their creative and novelty aspect and thus, contributing significantly towards as teachers' as professionals' for the future ahead.

13.0 LIMITATIONS

The present study posses certain limitations;

1. Teaching is a career which segregated by gender and in the distance education programs greater representation of novice teachers constitutes women. So, it was very difficult to find male novice teachers.

2.   Conducting the data collection, we were interested for novice teachers which were young but as the data was collected we met population with age group beyond 30 years.

3. The study will be delimited only to 300 novice teachers studying by the mode of distance education.

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Promoting Teacher Education through Distance Learning: Need and Challenges

Supreet Kaur

Abstract

The backbone of any education system is its teachers. The quality of teachers largely determines the quality of education in any country. Our country with a population of over 1.21 billion faces an acute shortage of teachers. Traditionally, teachers have been trained through conducting regular courses at various colleges of education and university teaching departments all over the country. Though, as per the National Council for Teacher Education guidelines, this norm is still followed for training fresh teachers, those who have teaching experience may opt for distance learning mode. This is a seminal provision which needs to be utilized to its full potential. Using distance education, if we are able to fulfill the gap between the demand and supply of teachers, the country's education system will be greatly benefitted. This paper highlights the need for a greater emphasis on teacher education through the distance learning mode and discusses the hurdles that lie on its way.

Introduction

Universalization of education is the stated goal of the country as well as of global community. In 1990, the global community pledged at the World Conference on 'Education for All' Binder (2006) which estimates the numbers of children (age group 12 to 17 years old) who are not receiving education throughout the world, was 400 million (Danaher & Umar, 2010). Govt. of India estimated that more than 8 million children only in the age group 6-13 are out of school in a study by Department of Elementary Education & Literacy, Ministry of Human Resource Development (Govt. of India, 20012). According to UNESCO's Institute for Statistics, half of the world's countries need to expand their strength or number of teachers significantly (UNESCO, 2009). This creates an obvious pressure on the teacher preparation system globally. To meet the goal, a global total of 10.3 million teachers should be required (UNESCO, 2009). It adds salt to the wound when we come to know that the goals are not likely to be achieved with its current rate of progress.

The Right of Children to Free and Compulsory Education Act (RTE), 2009 mandates that education be provided to all children in the age group of 6 to 14 years. In a populous country like India, reaping the benefit of the demographic dividend, this means a manifold growth of the education sector. According to the latest Census (2011) the population of our country is 1.21 billion. This implies a massive decadal growth of 17.64% since the last census. The backbone of such a huge education system is its teachers. The quality of teachers largely determines the quality of education in any country. In India, the importance of the teacher was also recognized by the Education Commission (1964-66) which acknowledged that of all the factors that influence quality of education, the quality, competence and character of teachers is undoubtedly the most significant. Traditionally teachers have been trained through conducting regular courses at various colleges of education and university teaching departments all over the country. Though, as per the National Council for Teacher Education guidelines, this norm is still followed for training fresh teachers, those who have teaching experience may opt for distance learning mode. This is a seminal provision which needs to be utilized to its full potential. There are over seven lakh untrained teachers in the country of which around 5.48 lakh are at primary level and 2.25 lakh at upper primary level ("RTE Act Will", 2011). These teachers, if properly trained, can contribute immensely towards the cause of universalisation of education. Teacher education through distance mode can assist in this task effectively and hence its role in the provision of such education needs to be analyzed. These data suggest that providing education of high quality to every child will require time, resources, and colossal efforts. These all hurdles in global education scenario creating a demand for distance learning to develop a way and lead this avenue.

Need For Teacher Education through Distance Mode

There are four major threads that have been identified towards attainment of the education targets,

      a)   Shortages of teachers

      b)   Female teachers are in a minority

      c)   Untrained or undertrained teachers

      d)   New goals create new demands (e.g. gender parity, inclusive education, peace and social cohesion, multi-grade teaching etc.) (Perraton, 2003).

The balance between these four elements is important. This leads to two distinct important areas of teacher education. First is the initial education & training of teachers and second is their continuing professional development. It is recognized that distance learning can be strategically employed in continuing professional development of teachers, particularly with a view to overcoming the barriers of physical distance. However, the primacy of direct human engagement and actual social interaction among student-teachers as the core process of initial teacher preparation needs to be emphasized. Distance learning, as a strategy, can be a powerful instrument for providing continued professional support to the teacher practitioner.

Distance learning is an organised educational activity, based on the use of teaching materials, in which constraints on study are minimised in terms either of access, or of time and place, pace, method of study, or any combination of these. (NCTE, 2010).

All of this clearly showed the importance and place of distance education in initial teacher education as well as continuing professional development as it allows way:

- to find ways of using existing resources,
- to access learning opportunities at affordable cost,
- for alternative pathways to initial teacher training,
- to attract new unreached population to work as teachers,
- to use technologies to enrich teaching and support practice, and
- to stimulate and support teachers' active learning

Year	Increase in Distance Education
1975-76	2.6%
1985-86	8.9%
1990-91	10.7%
2008-11	20.56%
2012-14	25%

The size of distance education increases from year to year in 1975-76 it was 2.6%, in 1985-86 it was 8.9%, in 1990-91 it was 10.7%, and in 2008-19 it was increased to 20.56%. In 2012, I was close to 24% of all enrollments were in the Open Distance Learning (ODL) system (Suneja, 2014).

Our country is still facing an acute paucity of teachers. Former Human Resource Development Minister Kapil Sibal had told the Rajya Sabha in 2010 that there is a shortage of 12 lakh teachers across the country and around 5.23 lakh posts are vacant (Kohli, 2014).The teacher education system through such programmes is expected to ensure an adequate supply of professionally competent teachers to run the nation's schools (NCFTE, 2009). Regular courses of teacher education demand humongous investments in resources like land, manpower, infrastructure and so on. But unfortunately, the total public expenditure on education expressed as a percentage of the Gross Domestic Product (GDP) was around 3.4% in 2012 as per the recent data released by the World Bank (2014). Keeping in mind this financial constraint, there is a need to provide teacher education to a large number of people. Education through the distance mode does not require many investments which are indispensable in the regular mode. This need can be fulfilled by using distance education for educating teachers. Training through distance education enables pupil teachers to choose from a vast variety of courses, teachers and institutions. They can gain access to the classes they want to attend and the speakers that they like without the problem of limited seats and access. Moreover, when there is no limit on the number of students who can

attend a particular class, unlike in the regular mode. Since our social and physical infrastructure still poses barriers, distance education can help bypass such hindrances.
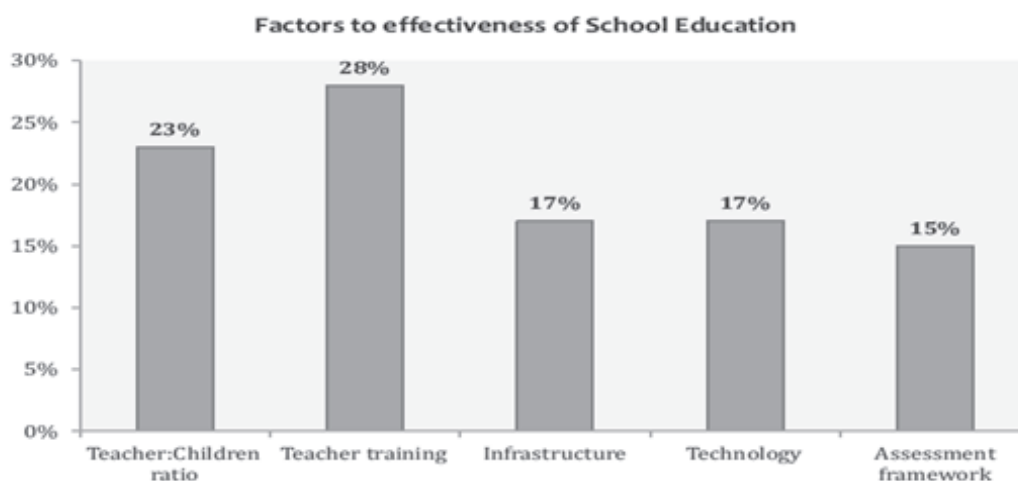
Factors to effectiveness of School Education

Exhibit.1 Importance attached to factors for effectiveness of school education*
(*Source: Survey with 50 respondents at CII National Conference on School Education)

Teacher Education through distance learning: Challenges

Distance learning can be alienating when it means waiting for communication from the centre or from tutors. Any form of helplessness is frustrating and this shows how important it is that course providers respond promptly, be it to questions, sending materials or providing feedback to students (Evans & Shortall, 2011). When planning to use distance learning for teachers we need to ask not only about how it can work, but also about curriculum policy. Some challenges in this regard are:

➢ the balance between the four elements of the curriculum of teacher education (general education, subject knowledge, pedagogy, and practical teaching);

➢ the balance between pre-service and in-service teacher education;

➢ the balance between traditional and progressive approaches and views about the appropriateness of defining teacher education in terms of a set of stated competencies;

➢ realistic expectations that will help the progress of curriculum reform. (UNESCO, 2002).

The curriculum of any teacher education programme should be developed by local needs and by the programme's purpose. Facilitation of teacher education programme in regional languages is a big demand. It takes extra technology work and human resource to develop instruction technology in accessible language. Poor institutional collaboration and

co-ordination may lead to some problem in programme delivery. The development and teaching of online programmes may cost as much or more than face-to-face equivalents. It also needs some technology awareness for the learners to access different information and communication technology. Print plays an important role in distance education system, either as lead or supporting medium. But, there are certain areas in teacher education where printed materials are not much helpful. Programmes focusing on teaching methodology need face to face contact with instructor.

The Road Ahead

Distance learning has been widely applied to teacher education and there is some record of success in its use. With differing emphases on different parts of the programme it has been deployed for teachers at different stages of their careers, and in support of national programmes of development. By realizing importance of teacher education,

National Assessment and Accreditation Council (NAAC, 2007) developed quality indicators in teacher education for assessment of teacher education progranmme offering distance education. They have six broad key areas representing six dimensions of a teacher education including its entire academic as well as administrative activities. The six key areas are:

a) Curriculum Design and Planning,

b) Curriculum Transaction and Evaluation,

c) Research, Development and Extension,

d) Infrastructure and Learning Resources,

e) Student Support and Progression and

f) Organisation and Management.

Good quality of distance education programs provision will be another key factor of successful implementation because, if achieved, it will demonstrate that distance education methods can provide courses and programs of good quality and, in some cases, it can provide better quality then in face to face programs (Nhavoto, 2005). Teacher education programmes often involve partnerships with: schools, local education officers, teachers' training institutions, school inspectors and district authorities. Initiatives from Universities committed to implement distance education programs must be coordinated in order to rationalize resources in the training, in the infrastructures, in resource partnership, in student support and production & delivery of instructional materials. The broad goal is to discourage dispersion and duplication of efforts and resources. Distance education programs run by different providers must be integrated and articulated in order to facilitate the mobility of students and instructors (COL, 2005).Universities engaged in teacher education through distance education should have inflexible requirements as a way of ensuring standards.

What is most necessary here is that universities and colleges who are the epitome of quality education be linked to nodal centres throughout the countries. These centres may operate at the district or block level. Such centres may make arrangements for online

connectivity to live lectures taking place in colleges and universities providing teacher education. Teaching assistants may be hired for operating such centres and the real teaching activities may be carried out by the country's renowned and experienced teachers. Students of nearby areas can reach the centres at the stipulated time and attend classes in real time for immediate interaction, while others could access these classes from the database at a time of their convenience. This way the same learning experience can reach those living in the vicinity of educational hubs and those residing in the remotest of areas. This will also have the added advantage of motivating teachers. The fact that they are addressing such a huge audience across the country is in itself a motivator to prepare well for the class and make it relevant and interesting for the audience. This may help in bridging the huge disparities in the quality of teacher education across the country. The Committee Reports to give some measures to regulate the standards of education being Imparted through Distance Mode (2013) also suggests this kind of a two level structure for open universities, at level one, the headquarters serve as the main body and at level two, regional centers function as a support body. Further, it suggests that the main body shall have two major parts, the Administrative Limb which my serve as the University's Central Administrative Structure will deal with administrative and financial policies and the Academic Limb which shall made schools or faculties directly responsible for planning, designing, developing programmes and instructional material, academic counseling and evaluation of learners.

The assessment and evaluation practices also need to be revised and designed in a customized manner to meet the needs of distance education. The examination process has to be computerized as much as possible. This is essential because it is only through proper evaluations that the learning of those at the receiving end of distance education may be assessed. A computerized examination system does not only saves time and money but also guarantees objectivity in the results. Taking a step forward in distance education itself, learning materials that are to be distributed to learners pursuing education through this mode should be delivered electronically. It will save huge mailing costs along with the added advantage of being environment-friendly. Pupil Teachers can also access classes online when they are not able to access regular classrooms due to some medical problems. With the incessant growth of the Information Technology (IT) sector, the use of on-line mode is not only useful for attending lectures and distribution of learning materials, but also for real-time interface between students and teacher fraternity. With an increase in the number of libraries operating in the digital mode, pupil teachers can save money on high priced books when they are not able to physically visit the library. Teacher education through distance mode also provides the benefit of self-pacing that is the student-teacher can move on with the course content at his or her own pace, thus adhering to the principle of individual differences in learning.

As distance education offers equal right of entry regardless of one's social-economic status, income, gender, race, age, there is an urgent need to push it aggressively in the realm of teacher education. At its most basic level distance education takes place when there is not a formal teacher – taught contact and technology is used to educate students (Willis, 1994). Considering the quantum of growth in the Information and Communication

Technology (ICT) sector and the exponential growth in the speed of data transfer through the internet, it can be concluded that e-classrooms are the future of education in India.

Conclusion

What our country requires is large scale education, if we are to meet the shortage of teachers; we have to explore ways of using ICT to expand the reach of education which is already available. It requires years and years to set up a new college of education but it may require just a few months to make arrangements for existing colleges of education to reach a wider audience. The unique selling proposition of teacher education through the distance mode is that it can reach large audiences, and can do so quickly. That is why distance education is practiced in all parts of the world to provide study opportunities for those who cannot or do not want to take part in classroom teaching (Holmberg, 1995). Increase in technology today has enabled full courses to be delivered online even in India. However, this mode has not been explored as deeply in the field of teacher education as say in management courses. The possibilities of utilizing this mode in teacher education needs to be further explored and this requires integration between technology providers with colleges of teacher education.

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Role of Distance Education in Enhancing the Literacy

Ram Mehar

Abstract

Distance learning is the education for learners who may not always be physically present at a school. Learning courses that are conducted (51 percent or more) are either hybrid, blended or 100% whole instruction. Although the expansion of the Internet blurs the boundaries, distance learning technologies are divided into two modes of delivery: synchronous learning and asynchronous learning. Distance learning enables access to education for both the illiterates and literates since it has flexible schedules, which goes a long way to overcome time-constraints imposed by personal limitations and commitments. Hellman (2003) states, "In the face of the pressure on these countries to join the global information economy, distance learning appears to provide the opportunity to train large number of learners at better and lower cost." India has one of the largest Distance education systems in the world, second only to China. From just a handful of students in 1962-63 the enrolment in correspondence courses rose to about 65,000 students in 1975-76. In 2000-01, there were about 14 Lakhs learners studying through distance mode which further went up to about 18 Lakhs students in 2005-06. The learners enrolment further rose to about 37 Lakhs in the year 2009-10. Thus, with fresh enrolment in Open Distance Learning Programmes at approximately 40 Lakh annually, the share of distance learning in the gross enrolment ratio is about 22-23%, which is quite significant. At present nearly 25% students of higher education in the country are enrolled in the Open Distance Learning system (Growth of Distance Education in India, Ministry of Human Resource and Development, 2016). Distance learning has a pivotal role to play in enhancing the gross enrolment ratio not only in India but all over the world. It can be concluded that Distance learning is instrumental in improving both the quality and quantity of education.

Introduction

Distance learning is the education for learners who may not always be physically present at a learning centre. Courses of learning that are conducted (51 percent or more) are

either hybrid, blended or 100% whole instruction. Massive open online courses (MOOCs), offering large-scale interactive participation and open access through the World Wide Web or other network technologies, are recent developments in distance education*(Kaplan & Haenlein, 2016).* A number of other terms (distributed learning, electronic learning, online learning, etc.) are used roughly synonymously with distance learning.

One of the earliest attempts in correspondence education was advertised in 1728 in the *Boston Gazette* for "Caleb Philipp's, Teacher of the new method of Short Hand," who sought students who wanted to learn through weekly mailed lessons (Holmberg, Bernath & Busch*, 2005).*

The first distance learning course in the modern sense was provided by Sir Isaac Pitman in the 1840s, who taught a system of shorthand by mailing texts transcribed into shorthand on postcards and receiving transcriptions from his learners in return for correction. The element of student feedback was a crucial innovation of Pitman's system (Stanton, 2001).This scheme was made possible by the introduction of uniform postage rates across England in 1840.This early starting proved highly successful, and the Phonographic Correspondence Society was founded three years later to establish these courses on a more formal basis. The Society created the way for the later formation of Sir Isaac Pitman Colleges across the country (*Moore & Kearsley, 2005).*

The history to this innovation lay in the fact that the learning institutions (later known as University College London) was non-denominational and, given the intense religious rivalries at the time, there was an outcry against the "godless" university. The issue soon boiled down to which learning institutions had degree-granting powers and which learning institutions did not (Rothblatt, 1988).

Technologies

Although the expansion of the Internet blurs the boundaries, distance learning technologies are divided into two modes of delivery: (i) synchronous learning and (ii) asynchronous learning.

(i)   In synchronous learning, all learners are "present" at the same time. In this regard, it matches traditional classroom teaching methods despite the participants being located remotely. It requires a learning time schedule to be organized. Web conferencing, video conferencing, educational television, instructional television are main examples of synchronous technology, as are direct-broadcast satellite (DBS), internet radio, live streaming, telephone, and web-based VoIP (Lever-*Duffy & McDonald, 2007).* Many universities have been starting to utilize robot proxies to enable more engaging synchronous hybrid classes where both remote and in person students can be present and interact using telerobotics devices such as the Kubi telepresence robot stand that looks around and the Double Robot that roams around. With these telepresence robots, the remote learners have a seat at the table or desk instead of being on a screen on the wall (Meyer, 2015).

(ii)   Learners in asynchronous learning, access study materials flexibly on their own time schedules. Learners are not required to be together at the same time on the same place. Correspondence through mail, which is the oldest form of distance learning, is an asynchronous delivery technology, as are message board forums, electronic-mail, audio- video recordings, print study materials, voicemails, and fax (Lever-*Duffy & McDonald, 2007).*

There is a third possibility also. The two methods synchronous and asynchronous learning can be combined. This type of mixed distance and campus based learning has recently come to be called "blended learning" or less often "hybrid learning". Many open universities use a blend of technologies and a blend of learning modalities (face-to-face, distance, and hybrid) all under the rubric of "distance learning." Distance learning can also be used Interactive Radio Instruction (IRI), Interactive Audio Instruction (IAI), Online Virtual Worlds, Digital Games, Webinars and Webcasts, all of which are referred to as e-Learning (Burns, 2011).

Benefits

Oblinger (2000) elucidated the benefits of distance learning as listed below:

(i)   Distance learning can expand access to education and training for both general populace and businesses since its flexible scheduling structure lessens the effects of the many time-constraints imposed by personal responsibilities and commitments.

(ii)   Devolving some activities off-site alleviates institutional capacity constraints arising from the traditional demand on institutional buildings and infrastructure.

(iii)   As the population at large becomes more involved in lifelong learning beyond the normal schooling age, institutions can benefit financially, and adult learning business courses may be particularly lucrative.

(iv)   Distance education programs can act as a catalyst for institutional innovation.

(v)   Distance education can also provide a broader method of communication within the realm of education.

(vi)   Furthermore, there is the potential for increased access to more experts in the field and to other students from diverse geographical, social, cultural, economic, and experiential backgrounds (Maggio, Chenail & Todd, 2001).

(vii)   The high cost of education affects students in higher education, to which distance education may be an alternative in order to provide some relief (Nguyen, 2015).

(viii)   In addition, distance education may be able to save students from the economic burden of high-priced course textbooks. Many textbooks or work books are now available as electronic textbooks, known as e-textbooks,

which can offer digital textbooks for a reduced price in comparison to traditional textbooks.

(ix)   Distance learning may enable students who are unable to attend a traditional school setting, due to disability or illness such as decreased mobility and immune system suppression, to get a good education (Woods, Maidan & Brandes, 2011).

(x)   Distance learning may also offer a final opportunity for adolescents that are no longer permitted in the general education population due to behaviour disorders. Instead of these students having no other academic opportunities, they may continue their education from their homes and earn their diplomas, offering them another chance to be an integral part of society.

Criticism

Barriers to effective distance learning include the obstacles such as domestic distractions and unreliable technology(Östlund, 2005) as well as students' program costs, adequate contact with teachers and support services, and a need for more experience (Galusha,1997). Some learners try to participate in distance learning without proper training with the tools needed to be successful in the program. Learners must be provided with training opportunities (if required) on every tool that is used throughout the study program. The lack of recent technology skills can lead to an unsuccessful experience. Schools have a responsibility to adopt a proactive policy for managing technology barriers (Stephens, 2007).

There may also be institutional challenges. Distance learning is new enough that it may be a challenge to gain support for these programs in a traditional brick-and-mortar academic learning environment (Liderman, 2013).Furthermore, it may be more difficult for the instructor to organize and plan a distance learning program, especially since many are new programs (Stebnicki & Glover, 2001) and their organizational needs are different from a traditional learning program. Another plus point of distance learning is one for developing countries. Hellman (2003) states, "In the face of the pressure on these countries to join the global information economy, distance learning appears to provide the opportunity to train more people better and at lower cost."

Even though there are advantages in advancing industrial countries, there are still negative sides to distance education. Hellman (2003) states, "These include its cost and capital intensiveness, time constraints and other pressures on instructors, the isolation of students from instructors and their peers, instructors' enormous difficulty in adequately evaluating learners they never meet face-to-face, and drop-out rates far higher than in classroom-based courses."

A more complex challenge of distance learning relates to cultural differences between learners and teachers and among learners. Distance Learning Programmes tend to be more diverse as they could go beyond the geographical borders of regions, countries, and continents, and cross the cultural borders that may exist with respect to gender, race and religion. That requires an understanding and awareness of the norms, differences, preconceptions and potential conflicting issues (Nasiri & Mafakheri, 2015).

Distance Learning in India

India has one of the largest Distance Learning systems in the world, second only to China. There are six types of institutions offering Distance Learning in India today:

(i)   National Open University

(ii) State Open Universities

(iii) Distance Education Institutions (DEIs) at

(a) Institutions of National Importance

(b) Central Universities

(c) State Universities

(d) Deemed to be Universities

(e) State Private Universities

(iv) Distance Education Institutions (DEIs) at Stand alone Institutions

(a) Professional Associations

(b) Government Institutions

(c) Private institutions

Historical Developments

Five decades ago policy-makers realized the imperative need of Distance education in order to expand the base of higher education. With the expanding base at the school levels, the demand for higher education had increased. Growth of distance learning in India may be examined at the school and the tertiary levels:

(I)   School Level

(i) India made an early start in the use of radio in schools. Radio has been in use since the early fifties and Television has been used for educational purposes right from its introduction in 1959 as supplement to the regular curriculum. The Satellite Instructional Television Experiment (SITE) a significant development in the area of educational television in India which provided access for several villages in six states to specially pre-recorded television programmes. The television based lessons devoted for primary education were supplemented by face to face instruction by teachers.

(ii) The Indian National Satellite System (INSAT) programme followed Satellite Instructional Television Experiment (SITE) and now provides educational programmes to primary school children as well as area specific programmes for rural viewers in selected clusters in some states.

(iii) Correspondence learning courses at secondary level were start in 1965 when the Central Advisory Board on Education recommended such courses with the objective of improving the academic standards of private learners. The Board of Secondary Education, Madhya Pradesh was the first to start

correspondence learning courses in 1965. This is now referred to as the Madhya Pradesh Open School. The Patrachar Vidyalaya, Delhi was established in 1968. The Boards of Secondary Education, Rajasthan, Orissa, Tamil Nadu and Uttar Pradesh are the institutions offering correspondence learning at secondary and higher secondary levels.

(iv) The first open school was established in New Delhi in 1979 with a view to provide distance learning to school drop outs enabling them to enroll for the secondary course. The open school has started offering senior secondary courses in September, 1988. The institution was upgraded to the National Open School (NOS), in November 1989 as an autonomous institution of the Central Government with the objective of providing relevant, continuing and developmental education to prioritized client groups as an alternative to the formal system. The states of Punjab and Andhra Pradesh have also established Open Schools recently and Maharashtra is in the process of establishing an Open School.

(v) In 1985 the enrolment at the Secondary and Senior Secondary stage through correspondence was 62,962 which was just 0.31% of the total enrolment at that stage. The situation has improved considerably since the establishment of the National Open School which enrolls about 50,000 students annually.

2   Tertiary Level

(i) Distance learning for higher education in India was initiated in the form of Correspondence learning Courses in 1962, in response to the ever-increasing demand for higher education which could not be met by the conventional system. School of Correspondence Course and Continuing Education established by Delhi University in 1962. Education Commission (1964-66) recommended the expansion of correspondence learning for various purposes after getting success. Consequently, the University Grants Commission (UGC) formulated guidelines for introducing correspondence courses in Indian Universities. In the late sixties three more Institutes of Correspondence Studies were established. Twenty one more universities introduced correspondence Programmed during the seventies. In the early eighties seven more universities started institutes of correspondence studies. At present there are 45 universities including four deemed universities offering correspondence programmed in the country.

(ii) The establishment of the Open University in the United Kingdom, in 1969 encouraged several countries to deliberate on the new concept and its potential in making higher education more accessible, flexible and innovative. India was one of those countries which examined the possibility of establishing an open university in the early seventies. This influenced a few universities like University of Mysore and Andhra University to adopt open admission policies in the mid seventies by relaxing formal qualifications for entry to undergraduate and post-graduate courses. This seemingly minor

innovation provided impetus to efforts towards greater access to higher education for larger segments of the population especially those adults who could not complete school education.

(iii)   Andhra Pradesh government gave a lead to the country by setting up the Andhra Pradesh Open University (now renamed as Dr. B.R. Ambedkar Open University) at Hyderabad in 1982. In 1985, the Govt. of India, through an Act of Parliament established the Indira Gandhi National Open University (IGNOU) which is responsible for determining and maintaining standards of distance education and bringing about coordination among all distance learning institutes including the open universities all over the country in addition to functioning as University for open learning and distance learning programmes.

(iv)   The establishment of Indira Gandhi National Open University at New Delhi in 1985 has proved to be a milestone in the development of distance learning in India. It provides a central organization for guiding and coordinating the activities of all distance learning institutes and state open universities in the country. It has popularized the concept of open learning system resulting in the establishment of three more state open universities in the late eighties viz. - Kota Open University in Kota (Rajasthan), Yashwantrao Chavan Maharashtra Open University at Nasik (Maharashtra) and Nalanda Open University at Patna (Bihar). States of Madhya Pradesh and Karnataka have also established Open Universities recently.

(v)   From just a handful of students in 1962-63 the enrolment in correspondence courses rose to about 65,000 students in 1975-76. In the last fifteen years the annual growth rate of enrolment in open universities and the institutes of correspondence studies attached to conventional universities has been appreciably higher than in the conventional universities and in 1990-91 it was about 600,000. The proportion of learners enrolled in distance learning has steadily increased from 2.6% of the enrolment in higher education in 1975-76 to 11.5% in 1990-91. During 1992-93 the enrolment for distance learning programmes was more than eight lakhs.

In 2000-01, approximately 14 lakhs learners studying through learning mode which further went up to about 18 lakhs learners in 2005-06. The learner's enrolment further rose to about 37 lakhs in the year 2009-10. Thus, with fresh enrolment in Open Distance Learning programmes at approximately 40 lakh annually, the share of distance learning in the gross enrolment ratio is about 22-23%, which is significant .At present nearly 25% students of higher education in the country are enrolled in the Open Distance Learning system. (Growth of Distance Education in India, Ministry of Human Resource and Development)

The Ministry of Human Resource and Development issued an order, dated 29th December, 2012, transferred the regulatory authority of distance education from Indira Gandhi National Open University to University Grants Commission. Thereafter, Indira Gandhi National Open University notified the repeal and deletion of Statute 28 of Indira Gandhi

National Open University Act and dissolution of Distance Education Council on 1st May 2013. University Grants Commission issued an order taking over the physical infrastructure of erstwhile Distance Education Council on "as is where basis is" and the staff working at erstwhile Distance Education Council on "deemed deputation basis". Distance Education Council of India created by the Parliament is an interim measure.

Distance education has a pivotal role to play in enhancing the gross enrolment ratio not only in India but all over the world .It can be concluded that Distance education is instrumental in improving both the quality and quantity of education.

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Distance Learning in India : Its Journey, Benefits and Challenges

Maninder Pal Singh and Manju Gera

Abstract

Distance learning has become an established and essential part of our educational system. This article highlights the problems related to distance learning. First, it identifies the system of distance learning in India.In addition to that it also identifies the benefits of distance education for distance learners. Finally, it deals with some challenges to maintain standard. Technical revolution and growing requirement for proficiency up-gradation are the main reasons for the unparalleled expansion of distance education.It provides information to those learners who have not been able to attend conventional class room setting. Quick developments in the area of ICT present new opportunities for the planning and delivery of teaching through the distance mode. In spite of all the potentials of distance learning, there are many grave challenges which are yet to be resolved. Excellence, cost effectiveness, evaluation, lack of inspiration, dropout rate etc. are some main issues in this area.

Introduction

Distance education is the process of self learning in which technologies can be applied to teach .Educators and learners are bodily separated in space and probably time (Teaster and Blieszner, 1999), and the interaction takes place through electronic and other technology,alongwith particular managerial and executive preparations (Moore as cited in Oweye, 2003).The student is free from the hassles of traveling to a predetermined place, at a set time, to meet a particular person, for instruction (Keegan, 1995). (Rajpal, Singh, & Bhardwaj, 2008)

Fig no. 1: Distance Learning

Distance mode of education is getting an impetus and is more admired than usual education. Distance learning is an outstanding way of approaching the pupil. Due to the challenging priorities of vocation, residence, and school, students want more flexibility. The composition of distance learning provides the maximum possible command over the time, place and speed of education; nevertheless, it also has its problems. Lack of student enthusiasm due to no face-to-face contact with educators and friends, potentially exorbitant introductory expenses, and deficiency of teacher's support are the main obstacles to successful distance learning. Distance education is student friendly in approach. It provides opportunities to the students to gain knowledge in more suitable locations, and at more convenient times, distance education opens educational prospects for earlier un-accessible students. It also enables students to expand the phase of their learning from a restricted number of schooling years to a lifetime learning process. It transforms supremacy and authority interaction between teachers and students to more equivalent and heart to heart communication than that happens in conventional learning settings. (Attri, 2012)

Journey of Distance Learning System in India

In 1962, the open and distance learning (ODL) system has developed exponentially into a vibrant and energetic mode of teaching and learning that boasts of one national open university, 13 state open universities and more than 200 distance education centers working under conventional universities and private/self-governing institutions. More than four million students are studying in the ODL programs and comprise 22% of the total enrolment in higher education.

Until recently the ODL system in India was governed by the Distance Education Council (DEC), established by the Indira Gandhi National Open University (IGNOU) in 1991. DEC was mainly taking care of the encouragement, organization and upholding of standards of ODL system in India and anticipated to create an efficient regulatory outline. However, DEC was criticized for its ineffective role, lack of concern and ineffectual method to check performance and enforcement of its norms. Institutions offering ODL programmes found

the norms given by DEC too inflexible and impractical, lacking the flexibility to cater to the variety of local contexts and rising concerns.

Due to the authoritarian functioning of DEC and regulation of the ODL system, in August 2010, the ministry of human resource and development (MHRD) constituted a committee under the chairmanship of NR Madhava Menon to propose measures to regulate the standards of education being imparted through distance mode. The Madhava Menon Committee questioned DECs authority as the top supervisory body of the ODL system mainly on the basis of difference of interest and inadequate manpower and technological support. According to the Madhava Menon Committee, DEC being a unit of IGNOU and working under the control of IGNOU,did not have the moral authority to regulate other universities which are also self-governing bodies created by the Acts of various state legislations and have the authority to set down their own norms and standards.

The Madhava Menon Committee observed that DEC, UGC and AICTE do not have the resources to enforce their norms in the distance education space. The Committee found the ODL system practically unregulated and recommended the dissolution of DEC and the founding of an independent and useful regulatory authority to control ODL system.

In view of the findings and recommendations of the Madhava Menon Committee, the MHRD and IGNOU dissolved DEC by the notifications issued by them in May 2013 and entrusted UGC and AICTE to perform the roles and responsibilities of DEC in their respective jurisdictions. The dissolution of DEC is a welcome move in the direction of long-awaited reforms in the ODE system in India. (Mishra, 2013)

It's Benefits for Distance Learner

Distance learning, also called as online education, is a feasible choice for learners of all age groups who want to get an education. It has a number of pros and advantages over a conventional learning environment.

- **Choice**: An online education provides the chance to study more subjects and access programs that are not offered in the vicinity.

- **Flexible**: Distance learning is more flexible than conventional styles of classroom education. Students who wish to attend other classes or are employed can do class work whenever they have are free instead of bound by a rigid schedule.

- **Networking**: Students who join classes with online education get a wider range of networking opportunities. Instead of being restricted to networking in the local area, distance learning help students to interact with a more diverse range of people.

- **Pace**: Online education enables learners to work at their own speed in many situations. The conditions are not as stern and offer a choice of appropriate dates when the work has to be submitted.

- **Scheduling**: The schedules for distance learning are more open and permit students, parents and professionals to attend the classes whenever it suits their schedule. This is beneficial over classroom education which binds students to schedule work and childcare around the class time.

- **Money**: Online classes cost less than an education in a classroom environment. There are less space limitations and materials required for each student and the savings are passed on from the educational institution to each student.

- **Traveling**: A big advantage of getting an online education is that there is no need to travel to and from class every day. Someone who doesn't drive or want to spend money on the costs of public transportation every day will likely choose to get an online education over the traditional classroom.

- **Selection of Professors**: Distance learning enables students to learn from some of the most prominent professors and guest speakers in each field.

- **No classroom sitting**: Sitting in the classroom is not the best way for every student to learn. A student may learn better at his own pace and in a different format than traditional schooling options offer.

- **Effective**: Online classes are just as, if not more, effective at teaching students than the traditional classroom style of learning.

Distance learning may not be the ideal option for everyone but should be considered when looking at options for education.

Challenges in Maintaining Standard

Even though there has been an unparalleled expansion of distance learning, there are certain key issues in this field which are yet to be addressed.

- **Quality:** Large enrolment is considered as the goal and an achievement of distance education. The question of quality is not given as much attention as it deserves. This kind of attitude actually deteriorates the quality of many distance education institutions. Maintaining high standards of the programmes is an important issue in this field. A systematic approach is needed in the design of courses and learning materials. Courses must be constantly revised and updated and learning objectives and outcomes must be clearly stated. Often, it is believed that technology itself will improve the quality of distance education. The real issue is not technology itself, but how it is used in the design and delivery of courses.

- **Dropout rates:** Increase in the number of dropouts is a very serious problem experienced by most of the distance education institutions. Loss of student motivation due lack of face- to- face contact with teachers and peers is a great barrier to distance learning. This often results in high dropout rates unless there is regular support of peers and tutors. Providing support to students is extremely difficult in the distance learning process.

- **Assessment of students**: In distance learning program me teachers do not have an chance to be acquainted with the learners and his communication method and presentation. This often raises the issue of trustworthiness of the student's responses. The issue of evaluation- i.e. knowing whether the students have achieved the learning objectives is more difficult in situations where teachers and students hardly ever meet each other.

- **Student concerns:** Because of the self directed nature of study distance learning is more suitable for the people who already have high levels of education and access to information and equipment. Acceptance for vagueness, need for independence, ability to be flexible etc. are some of the necessary characteristics required by students who pursue distance education.

- **Cost effectiveness:** Cost of online courses is affected by how they are implemented: as an improvement or as the primary teaching medium. If it is implemented as a primary teaching medium, it is more expensive. The introductory costs, continuation costs, and human resources costs should also be measured to arrive at a true cost for a distance-learning program. As technology is very costly appropriately planned distance learning programmes are extremely costly.

- **Problems related to technology:** progression in technology does not lead to efficient distance education. Teachers have to be trained to employ distance learning technology. Often some problems occur from the teacher's attitudes about use of the technology. Technicians have a great role in the instructional process. Equipment and hardware Malfunctions can also pose a great risk to the effectiveness of distance learning.

- **Infrastructure:** Distance learning requires adequate infrstructural services to make sure that instruction material reaches the learner. Ample telecommunication and internet facilities are mandatory. Developing countries must formulate new policies to deal with these challenges.

Conclusion

Thus, Distance Learning needs better scheduling and execution as this system has to function in a demanding and difficult atmosphere of openness. There is need to formulate ways and means to improve upon the external and internal environment of distance education system to avoid stagnation and create enthusiasm and development to get the potential of this system. We may say in the words of Fred Jevons, 'distance Education should no longer be written off as second best. Distance education has the possibility to make fairness and admittance to education a truth and, thus, enhance opportunities for a population in a vast democracy like ours. It has great possibility for meeting the requirements of the wide-ranging demands for human resources. Hence we need the expansion of distance education to get in touch with this vast country and its different needs, and especially for developing proficiency for a variety of occupations and careers.

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Building as Learning Aid and Learning Outcomes of Grade-III Primary School Students of Chandigarh

Kanwalpreet Kaur and Jatinder Grover

Abstract

The study aimed to explore the learning outcomes of grade-III primary school students with respect to Building as Learning Aid (BaLA) interventions developed in the schools of Chandigarh (U.T.). The learning outcomes of 4047 students were tested on four defined learning parameters of BaLA related to various concepts of BaLA. The learning outcomes of students on the parameters of interacting with language through written expression in Hindi language, understanding the physical world around us and knowledge of the natural environment were quite encouraging. But on parameters of interacting with language through written expression in English language and dealing with complexity of numbers and geometry, specific BaLA interventions need to be developed for improving learning outcomes of students. The results of study indicated that BaLA interventions enhanced learning outcomes of primary school students as learning outcomes of selected sample are better than the all India (rural) figures of ASER (2014) and ASER (2016) for grade-III primary school students.

1.0. Introduction:

To improve the status of primary education, in the year 2000-2001, the Government of India has launched the scheme of Sarva- Shiksha- Abhiyaan (SSA) and on August 4, 2009, the Right to Education Act (RTE) is enacted, under Article 21-A of the Indian Constitution and the Act came into effect on April 1, 2010. SSA and RTE Act, 2009 vouch for children's right to an education of equitable quality free from fear, stress and anxiety, based on principles of equity and non-discrimination.

With the implementation SSA and RTE Act, 2009 considerable success is achieved in universalizing elementary education in the country. Today, there are 19.67 crore children enrolled in 14.5 lakh elementary schools in the country with 66.27 lakh teachers at elementary

level. The interventions under SSA and RTE Act include building of school infrastructure; provisioning for teachers; periodic teacher training and academic resource support; making available learning resources for children like textbooks, computers, libraries; establishing residential schools for girls; identification of children with special needs and providing them need based support including aids and appliances; monitoring and supervision for making schools effective; and building local level accountability by engaging with community based organisations (MHRD, 2016).

But, the various surveys and reports showed that children are not achieving class-appropriate learning levels and the quality of learning is a major issue. The trends in quality measured in reading, arithmetic and English are alarming. According to Pratham's Annual Status Education Report (2016), at national level (rural) only 42.5% students of Standard III are able to read at least Standard I level text of regional language. Only 32% children in Standard III could read simple words in English. Arithmetic is also a cause for concern as only 27.7% students in Standard III could do a two-digit subtraction. To improve the quality of learning in schools is the big challenge for both the state and central governments.

In order to triumph over these limitations and acknowledge building as an important part of the basic elementary education, the Government of India in 2006, initiated a scheme called 'BaLA' i.e. Building as Learning Aid. The major objective of BaLA scheme is to holistically plan and use the school infrastructure by connecting the hitherto isolated components. It incorporates the ideas of activity based learning, child friendliness and inclusive education. At the core, it assumes that the architecture of school can be a resource for the teaching-learning processes. It is not only about developing new schools, but also about how existing spaces can be transformed. In fact, its genesis lies in addressing the needs of existing government schools and how they can be transformed (Vajpeyi, 2010).

In Hindi, BAL means a child or a boy and the acronym BALA means a girl. BALA is an innovative way to look at the relationship of a child with the schools' space. The concept of BaLA was originally developed by Vinyas, Centre for Architectural Research & Design with support from UNICEF. In 2007, Centre for Architectural Research & Design with support from UNICEF developed a manual with photographs and details to understand, plan and implement BaLA in schools of Delhi. BaLA was conceived under the project 'Creating Teaching-Learning Aids and Experiences in the Primary School Built Environment'.

BaLA is about developing the school's entire physical environment as a learning aid – the inside, the outside, the semi-open spaces – everywhere. At the core, it is about maximizing the educational value of a built space. It is based on how children learn. BaLA is a tool to promote learning, curiosity, care and concern, wonder and lifelong learning. It helps children to practice and revisit concepts. It also helps learning to take place everywhere - in the classroom, the corridor, the varandas, the outdoors, etc. (Vinyas and UNICEF, 2012).

The dynamic design of the building and its engaging layout is fundamental in attracting child towards the school. Equally important are the design of the classrooms in which students spend most of their time. Studies have shown that the fun filled, aesthetical environment relieves children of boredom and increases constructive use of time (Sharma,

Adsure, & Varjani, 2012). As per RTE Act (2009), schools are envisaged as places where children can learn and play and schools should provide a welcoming environment for children and reflect their local culture.

The environment plays a major role in learning, rich environment provides more concrete opportunities for learners to learn by interacting with instructional material. Alimi, *Babatunde* and Oluwole (2012) reported that the importance of physical facilities cannot be demoted. School facilities are the space interpretation and physical expression of the school curriculum. Woolner et al., (2007) and Durán-Narucki (2008) concluded that quality of physical environment broadly correlated with student outcomes, such as attendance, behaviour and achievement. Further, Orodho (2014) stated that lack of adequate and appropriate physical facilities can constrain smooth interaction between the learner and learning process and threaten holistic educational development.

Vajpeyi (2010) reported that teachers and principals of the schools having BaLA scheme across the country stated that it leads to an increase in enrolment and retention of children; learning has become more interesting for the children and the teacher as abstract notions are better understood through concrete examples; and children have become more aware and ask more questions in schools.

In Chandigarh, the BaLA concepts are developed for making the learning a joyful experience in 73 Government schools at primary level since 2012-13. BaLa is a relatively new concept that has been implemented recently in most of the Indian schools to redesign and transform the primary schools into an exciting child sensitive space, so, that schools serve as self-learning educational aids. It would, therefore, be interesting to explore if BaLA has significantly contributed towards improving the learning outcomes of students at primary level.

2.0.   Objectives of the Study:

The objectives for the present study are as follows:

- To study the learning outcomes of grade-III primary school students with respect to BaLA interventions developed in the schools.
- To compare the learning outcomes of male and female grade-III primary school students with respect to BaLA interventions developed in the schools.
- To compare the learning outcomes of grade-III primary school students of rural and urban schools with respect to BaLA interventions developed in the schools.

3.0.   Research Questions:

- Do BaLA interventions have an effect on the learning outcomes of grade-III primary school students?
- Is there any significant difference in learning outcomes of grade-III male and female primary school students with respect to BaLA interventions?
- Is there any significant difference in learning outcomes of grade-III primary school students studying in rural and urban schools with respect to BaLA interventions?

4.0. Method and Procedure

4.1. Method of study: The present study was an exploratory study wherein descriptive survey method used to collect data regarding learning outcomes of grade-III primary school students and examine whether BaLA interventions could possibly have an effect on the learning outcomes of grade-III primary school students.

4.2. Sample of study: For the study, a sample of 50 schools of Chandigarh (U.T.) was purposively selected which have well developed BaLA concepts in their school premises. For the study, 60% students of the total strength of grade-III of selected schools were selected randomly as a sample for data collection. A total sample of 4047 students was the final sample that includes only those who participated and responded on the response sheets. The details of the selected sample are as follows:

Table1. Details of selected Sample

Grade - III (Total = 4047)			
Boys	**Girls**	**Rural**	**Urban**
2028	2019	1205	2842

4.3. Tools and procedure of data collection: An achievement test was developed and validated for grade-III primary school students on the themes of BaLA developed in the schools of Chandigarh. The items of achievement test were developed on the four learning parameters as prescribed by VINYAS & UNICEF (2012) i.e.

- **Parameter-1- Ways of interacting with Language:** It is tested at two levels i.e. written expressions in Hindi language and Written expressions in English language.

    - ♣ **Parameter-1A- Written expressions in Hindi Language:** To examine the written expressions in Hindi Language, four items related to identifying shapes and concept of directions of sun rise and sun set were framed.

    - ♣ **Parameter-1B- Written expressions in English Language:** To examine the written expressions in English Language, eight items related to identifying pictures, days of week and months of year were framed.

- **Parameter-2- Dealing with complexity of Numbers and Geometry:** To assess the ability of students to deal with Numbers and Geometry, twenty-four items were framed related to tables, roman numbers, clock timings, basic arithmetic operations, measurements and two-dimensional geometric shapes.

- **Parameter-3- Understanding the Physical World around us:** To evaluate the knowledge of students about the physical world around us, twelve items were framed related to colours, modes of transport, games, festivals, communication instruments and national symbols.

- **Parameter-4- Knowledge of the Natural Environment:** To judge the understanding of students about natural environment twelve items were framed related to parts of plant and human body.

Items on defined parameters were developed with the help of experienced primary school teachers and teacher educators. First draft contained sixty-six items. A review of developed items by two experts is done and a pre-try out of first draft was conducted on a sample of 100 students of grade-IV (who have not participated in the study) to validate the test items. On the basis of suggestions of experts and pre-try out results, six items were dropped and seven items were modified. Final draft of test contains sixty items and the time limit to complete the test was ninety minutes. The data on achievement test was collected from the students of grade-III with the active support of cluster resource coordinators, teachers and principals of the schools during the period of January 9, 2017 to February 7, 2017.

5.0.   Results and Findings:

For analysing the data on achievement test, percentage analysis was done to summarise learning outcomes of Grade-III students. On the basis of percentage of achievement scores, the students are segregated into five intervals i.e. students getting less than 1% score; scores between 1% to 25%; scores between 26% to 50%; scores between 51% to 75%; and scores between 76% to 100%. As difference between the upper limit of an interval and lower limit of next interval is one, so 0.5 is deducted and added from lower limit and upper limit of every interval and achievement scores are put up in the intervals by using this proposition and the results are summarised as follows:

5.1.   Analysis of Learning Outcomes of Grade - III Students: A percentage analysis of learning outcomes of grade - III students on various BaLA parameters is presented as follows:

Table 2. Percentage Analysis of Learning Outcomes of Grade - III Students

Learning Parameters	Percentage of students having scores				
	Less than 1%	1% to 25%	26% to 50%	51% to 75%	76% to 100%
Parameter-1A: Ways of interacting with language - Written expressions in Hindi language	2.09%	10.25%	23.19%	38.91%	25.54%
Parameter-1B: Ways of interacting with language - Written expressions in English language	13.53%	20.63%	26.27%	27.23%	12.30%
Parameter-2: Dealing with complexity of Numbers and Geometry	7.83%	20.73%	29.42%	26.84%	15.16%
Parameter-3: Understanding the Physical World around us	4.14%	12.64%	21.89%	28.16%	32.78%
Parameter-4: Knowledge of the Natural Environment	6.43%	9.58%	15.09%	35.36%	33.51%
Overall Score on all Parameters	**6.80%**	**14.76%**	**23.17%**	**31.3%**	**23.85%**

Table 2 summarises results of grade-III students on overall achievement test and its various parameters. The overall score of students of grade-III clearly shows that 6.80% scored less than 1% score; 14.76% scored between 1% - 25%; 23.17% scored between

26% - 50%; 31.3% scored between 51% - 75%; and 13.85% scored between 75%-100%. The overall score indicated that 55.15% students of Grade- III scored more than 50% score on achievement test based on BaLA interventions. The achievement of students on various parameters is presented as follows:

- **On Parameter-1A**- **Ways of interacting with Language:** Results indicated that 2.09% students were not able to write in Hindi Language correctly as they scored less than 1%; 10.25% scored between 1% - 25%; 23.19% scored between 26% - 50%; 38.91% scored between 51% - 75%; and   25.54% scored between 75%-100%.

- **On Parameter-1B**- **Ways of interacting with Language:** Results indicated that 13.53% students were not able to write in English Language correctly as they scored less than 1%; 20.63% scored between 1% - 25%; 26.27 scored between 26% - 50%; 27.23% scored between 51% - 75%; and 12.30% scored between 75%-100%.

- **On Parameter-2**- **Dealing with Complexity of Numbers and Geometry**: Results of students on achievement test clearly showed that 7.83% students were not able to solve any problem related to numbers and geometry as they scored less than 1%; 20.73% scored between 1% - 25%; 29.42% scored between 26% - 50%; 26.84% scored between 51% - 75%; and 15.16% scored between 75%-100%.

- **On Parameter-3** -**Understanding the Physical World around us:** Results of students on achievement test clearly indicated that 4.14% students were not able to identify the physical things around us correctly as they scored less than 1%; 12.64% scored between 1% - 25%; 21.89% scored between 26% - 50%; 28.16% scored between 51% - 75%; and 32.78% scored between 75%-100%.

- **On Parameter-4 -Knowledge of the Natural Environment**: Results clearly showed that 6.43% students were not able to identify the natural things as they scored less than 1%; 9.58% scored between 1% - 25%; 15.09% scored between 26% - 50%; 35.36% scored between 51% - 75%; and   33.51% scored between 75%-100%.

5.2.   Comparison of Learning Outcomes of Students: To compare learning outcomes of male and female students and students studying in rural and urban schools, t-ratio for significance of difference between means of achievement scores was computed and results are summarised as follows:

Table 3: t-ratio between Mean Achievement Scores of Grade-III Male - Female and Students studying in Rural and Urban Primary Schools

Category	N	Mean	S.D.	t-ratio
Boys	2028	15.71	3.67	1.22 (Not significant)
Girls	2019	15.86	4.13	
Rural School	1205	15.64	3.15	2.24* (Significant at .05 level of significance)
Urban School	2842	15.91	3.64	

From table 3, it is evident that no significant difference was found in learning outcomes of grade-III male and female students. However female students scored more on mean achievement scores than their male counterparts. A significant difference was found in learning outcomes of grade-III students studying in urban and rural schools. The urban students of grade –III scored more on mean achievement scores than their rural counterparts.

6.0.   Discussion and Conclusions:

The objective of the present study was to explore the learning outcomes of grade-III students with respect to various BaLA interventions developed in schools of Chandigarh (U.T.). The results of the study showed that overall learning outcomes of primary school students were above average as 55.15% students scored more than 50% score on achievement test based on BaLA interventions.

During visits to schools for data collection, it's noticed that students were found observing various BaLA concepts during recess, play time and while passing through corridors. Students were found noticing alphabets, words, diagrams, pictures, identifying the objects, shapes, directions, signs and symbols.

On the first parameter i.e. ways of interacting with language through written expression in Hindi language, 64.45% students scored more than 50% scores, it indicates that students were proficient in writing in Hindi Language correctly. But on the second part of first parameter i.e. ways of interacting with language through written expression in English language, only 39.53% students scored more than 50% scores, it highlights the need to work upon the learning of English language of students.

On the second parameter i.e. dealing with complexity of Numbers and Geometry, only 42% students scored more than 50% score, it specifies the need to strengthen the skills of students to deal with Numbers and Geometry.

On the third parameter i.e. understanding the Physical World around us, 60.94% students scored more than 50% score, which shows that students were aware about the physical world around them and they observe carefully the phenomenon and events occurring around them.

On the fourth parameter i.e. knowledge of the Natural Environment, 68.87% students scored more than 50% score, it highlights the effect of BaLA interventions as in all the sampled schools' parts of plant and human body are drawn on walls and in classrooms.

As compared to all India (rural) figures of Annual Status Education Report (2016), the results of the present study are quite encouraging. The all India (rural) figures as per ASER (2014) and ASER (2016), for reading levels pointed out that the proportion of Standard III children who can read at least a Standard I level text in first language has gone up slightly, from 40.2% in 2014 to 42.5% in 2016. In 2014, 25.4% of Standard III children could do a two-digit subtraction and this number has risen slightly to 27.7% in 2016. Children's ability to read English is slightly improved in Standard III as in 2016, 32% children in Standard III could read simple words in English as compared to 28.5% in 2009.

The overall results on the parameters of interacting with language through written expression in Hindi Language; understanding the Physical World around us; and knowledge of the Natural Environment are encouraging. However, learning outcomes of students with respect to parameters of interacting with language through written expression in English Language and dealing with complexity of Numbers and Geometry need specific BaLA interventions for better results. The overall results pointed out that BaLA interventions lead to enhance learning levels of students.

Vajpeyi (2010) also concluded that changes in school building has made learning more interesting for the children and the teacher as abstract notions are better understood through concrete examples. Munyi and Orodho (2014) specified that that attractive school environment confirm retention and schools having less resources negatively impacted on the quality of teaching learning thus lowering achievement of learners.

No significant difference was found between learning outcomes of male and female students of grade-III. It indicated that male and female students were actively using BaLA concepts in schools for learning.   A significant difference was found between learning outcomes of grade-III students of rural and urban schools.

On overall basis, results of the study pointed out that developed BaLA concepts have a positive effect on the learning outcomes of the students. Buildings are the most expensive physical asset of a school. By innovatively treating the school spaces (e.g. classroom, circulation spaces, outdoors, natural environment) and their constituent built elements (like the floor, wall, ceiling, door, windows, furniture, open ground) a range of learning situations and materials can be integrated such that they can actively be used as a learning resource. This resource can complement the teaching process and supplement textbook information, much beyond providing wall space for posters and decoration.

Schools are specialized spaces for learning. Traditionally, school buildings were conceived to provide shelter to the activity of education. They were treated as structures of bricks and mortar, rather than as enclosures that encompass a learning environment. The concept of BaLA has changed the traditional thought about the building of a school and BaLA has provided an innovative way to look at the relationship of a child with the schools' space. Schools need to be proactive in ensuring that they provide an environment that is attractive and encourages students to pursue more scholarly activities (Kumar, O'Malley and Johnston, 2008).

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Distance Education : A Reflection of Select Countries

Meenakshi Madaan

Abstract

With the manifestation of new knowledge-based and service-oriented economy, far-reaching changes have occurred in work organization and skill requirements. New jobs demand higher levels of skills. One of the greatest challenges in the field of education is that higher levels of skills are required not only by the elite but also by the common man. Conventional stream of education is not capable of obliging the entire student community. In this context, countries have to find out new alternative approaches which enhance access, quality, cost effectiveness and equity. Both developed and developing countries consider distance learning as a new approach which is capable of providing knowledge to those learners who have not been served by the traditional class room setting. Now a days it has become an accepted and obligatory part of education in most of the countries. The concept of open learning focuses on open access to education and training to make the learners free from the constraints of time and place, and offering flexible learning opportunities to individuals and groups of learners. It is one of the most rapidly growing fields of education now a days and it has substantial impact on all education delivery systems. The new Distance Learning system growing fast because of the development of Internet-based information technologies, and in particular the World Wide Web. The objective of the present paper is to review open and distance learning in context with developed and developing nations, growth of distance education in these nations as well as recent trends towards distance education.

Introduction

These days distance learning has acquired the status of a rapidly developing shape of imparting learning nationally as well as internationally. It appears as a kind of prearranged learning where the learner and the teacher are detached from each other by time as well as by place. It is, therefore, regarded as an exceptional form of education. Distance education has become an essential perception in our current usual/conventional ways of

imparting education owing to the use of the non-conventional methods of delivery in distance education. There is the advent of new technologies in spreading information, and now the material of these courses are being brought to the notice of students in different cities, towns, and villages for fulfilling their knowledge-related and education-related needs in this time of ever-increasing population. In quite a few cases, distance-education programmes offer specialized educational courses to learners in remote geographical regions areas with the help of fast developing technology. The methods of the implementation of distance-education programmes differ significantly from country to country, and most of the distance-learning programmes generally take the active help of technological advancements as these remarkable advancements are considered the most cost-effective methods.

Distance-education programmes have advantages for the masses in particular since many people are not in a position of acquiring education owing to their financial, physical, or geographical roadblocks. Ever since the beginning of 1980s, the development phase of distance education has undergone significant and noticeable growth nationally as well as internationally. From the early correspondence-based education that used print-based materials, the distance-education programme has developed into a global movement with the help of numerous technological advancements. The objectives of learning from remoteness, as a substitute of conventional learning, are about proffering degree programmes, to scuffle with total lack of education in various emergent nations as well as to offer instruction-based openings for financially viable growth.

In order to identify the ways in which research in distance education and its related issues have progressed in the path of distance learning, this seems quite essential about comprehending a background related to this expanse of learning. To a very large extent, distance education depends on technological advancements. Amongst the tools used for this education, we have printed material, television, computer-conferencing, e-mail, interactive-video, satellite telecommunications, multimedia, as well as computer-technology for the advancement of student-teacher communication and for offering essential concept to the student in remote places.

Nevertheless, with the passage of time the recent developments in technology have made the distance learning an interactive-multimedia matter which promises to make easy "individualized" and "collaborative" education. Media developments are reducing the distinctions amid distance-education and customary learning. The aforesaid skill possesses some means of establishing similar fresh surroundings for knowledge to "virtual communities." Have. Learners in customary locations are being offered complete degrees on CD-ROM multimedia disks in the course of which they step forward at their own pace, by getting in touch with the teacher and with some remaining learners on electronic-mail system or face-to-face depending on various requirements of them. In such environment, global classrooms have been participating from a variety of nations by networking with one another from a far off distance. Actually, some sudden increase of education technologies has gathered many learners at one position through removing numerous limits of time and place in both site-based learners as well as students of far off places.

Historical Perspective of Distance Education

It is true that distance education is not a new notion. The initial chief correspondence programme in the United States got created in the late 1800s at the University of Chicago. In this course, the teacher and learner were at diverse places of residence. Prior to this period , mainly in Europe of era prior to industrialization, learning was available mainly to men in higher echelons of the world. The most successful type of education in that period was to collects learners and teachers at one location , and at the same time this type of customary educational continues the main model of learning till now. The attempts made by the teachers as William Rainey Harper in 1890 to set up substituteforms of learning were ridiculed. Correspondence learning got developed as a medium to offer learning avenues for such persons as did not fall within the aristocratic league and the one unable to pay for full-time boarding at the learning centres. Numerous teachers considered correspondence learning as just commercial ventures. Correspondence learning opposedthat discriminatory and highly inequitablelearning method that was launched in early times in the nation. Nevertheless, the requirement to offer equal access to educational openings to every section of society has always been a top priority in different democratic setups. With the development of medias such as radio expanded at the time of the First World War and television in the 1950s teaching made remotefrom theconventional classroom got fresh deliverance modes. Numerous instances of radio and television are there wherein radio as well as televisionwere used in schools to offer education at far off places. Wisconsin's School of the Air emerged sucha try, in the 1920s, to aver that the borders of the school did not remain now the borders belonging to any State. Lately, other medias as audio and computer teleconferencing have performed significant role in the release of teaching in public schools, higher learning , the army , trade , and commerce. After the creation of the Open-University set-up in Britain in 1970, as well as after the inventive uses of media by Charles Wedemeyer's at the University of Wisconsin in 1986, correspondence learning started using growing technologies to offer additionalefficient distance learning .

Outlook of Select Countries towards Distance Education

Distance Education in the United States

However the U.S.too got measured in this matter of entering in the field of distance education field. However, when it did, a unique style of distance education emerged for its requirement . They were not facing any kind of economic crises nor as issues like illiteracy which other developing nations were facing. The U.S.A, nevertheless, had problems related to the economy of handing over the material. The progess of distance education in United States began owing to the paucity in the domain of science, math, as well as overseastongues which finally created anatmosphere, in the last part of 80s, favorable to the fast expansion of business courses such as the one presented via satellite by the TI-IN network in Texas and at Oklahoma State University. One year afterwards, that figure increased to two-thirds of the States, and near the year 1989 nearly all States got engaged in distance education programmes. Possibly, the utmost significant manuscript which explains the condition of distance learning is the account done for Congress by the Office

of Technology Assessment in 1989 called *Linking for Learning* (Office of Technology Assessment, 1989). This account states and depicts an summary of distance education state of affairs in United States, the role of instructors, and reports of local, State, and Federal projects. It explains the highlights and salient features of distance education programmes all over the United States of America and also underscores how technology got put to use in the schools. For imparting study as well as instructions, the State has linked up the schools with broad networks and telecommunication mechanism. A few schemes, like the Panhandle Shared Video Network and the Iowa Educational Telecommunications Network, provide instances of using video networks that are both well-organized as well as price effectual.

Distance Learning Trends in the United States

Distance learning has been considered a technique of educating wherein the learner and instructor are actuallydisconnected. This system may make use of a mixture of technologies, together with correspondence, audio, video, computer, as well as the Internet (Roffe, 2004). At this time, one description of distance learning is online teaching, that utilizes computers and the internet for the release-mechanism with at least 80% of the course substanceconveyed online (Allen & Seaman, 2011; Shelton &Saltsman, 2005). These days online learning is not only regarded as a trend but also considered as a conventional practice or venture. In the year 2007 18.2 million learners were enrolled in higher education wherein 3.9 million (21.4%) were admitted in at least one online-course (Allen & Seaman, 2008; The United States Department of Education, 2013). In 2010, the number of the learners admitted in higher education rose to 21 million, and 6.1 million of those (29.0%) were admitted in an online course (Allen & Seaman, 2011; United States Department of Education, 2013). It characterizes an 18.8% average enhancement in the figure of the learners admitted in online education for the period of that time phase. Between 2010 and 2012, the expansion rate become somewhat leveled or uniform as compared to the rate of the preceding time by indicating an usualyearlyincrease of approximately 4.9%. This indicates an vast response of the learners for online courses. The admission of the learners in online courses is even now increasing, in addition to it an understanding is that these courses are at this place and will continue , teaching schools are under a task of fulfilling the requirement and at the same time of carrying on the mission of offering a eminent learning .

Open Education in the United Kingdom

Distance learning in the U.K.began in 1969 when they started theusage of technology to enhance print-based instructionsby means of well-prepared courses. In U.K , the learning material was given on a hugegauge to learners in three programmes, namely undergraduates, postgraduates, as well as associate students. While course-material was chiefly based on print , it drew sustenancefrom a number of technologies. Various prescribedacademic qualifications are not needed to getentry to the British Open University. Programmes get minutely screened and have been effectivelydistributed to over 100,000 learners. After the success of the above-stated open learning programme , the U.K model of Open University model has been adopted by many countries, and apart

from this, the International Centre for Distance Learning at the British Open University, has also maintained the utmost comprehensive holdings of literature in both investigation and training of international distance education. Research surveys ,appraisal reports, course methods , books, journal articles, and ephemeral measurableabout distance learning throughout the globe are all obtainableby means of quarterly accessions-lists or online.

Current Distance Learning Trends in the United Kingdom

In the year 2010 a survey was being carried out by the Technology-Assisted Lifelong Learning Team at the University of Oxford for the purposes of gauging online distance-learning offered by various UK-based institutions in the field of higher education. The observation of the following key trends took place:

1. Majority of the post graduate courses were being offered by online distance learning in higher education institutions.

2. Similar trend has been observed for the courses offered to the higher education institutions in collaboration with commercial organization which also emphasizes on postgraduate level education.

3. Courses which were being offered were designed towards the continuous professional development specially the ones which are offered by institutional/ private sector partnerships, these are basically business-oriented programs.

4. A higher number of level 4 as well as level 5 courses i.e. (Some of them are Certificate Courses and Diploma Courses) that are being offered lead to higher education. Most of these are stand-alone courses.

5. The commonly offered programs are mostly of business, law, medicine, science, and education.

Distance Education in Asian Countries

In Asian countries ,the concept of open learning is rather recent. Even there ,it has been found that there is a prominent development in the number of organizations and learners who study through distance education. In this manner, now the region of Asia has in every respect the greatest figures of learners who utilize this form of distance learning as equated with other nations of the globe . Five of the mega-universities (those with over 100,000 students), as recognized by Daniel (1995), exist inAsia. Most of the thrust has emanated from the systematic works of central governments in this matter about creating committed open-education institutions. Nation after nation in Asia has set up its own Open University, and almost all such Open Universities have a clear authorization for carrying out research. They are also responsible for the development the development in the number of DE (Direct Education) institutions in Asia. The introduction of new organizations, new courses, new groups of learners and new methods to open learning have generated a colossal requirement for well-designed research programmes towards an assortment of features of this form of teaching and education. So far, there is an unambiguous evidence of research going on all over Asia, despite the fact that much of it is in small-scale and this research is often unidentified separatefrom the host organization.

Distance Education in China

China is considered as a country with the highest number of open-education system in the globe, though its linkage of Radio and Television Universities (RTVUs). The RTVUs,were set up in the year 1979, when they began offering networks to correspondence colleges in big cities, and this provided some significant enhancement to this venture in 1988 along the initiation of two communications satellites by China. With the help of this immense open-learning system, many million students have become graduates. This system continues to grow, and a wide-ranging data ofits progress and operation is mentioned in Radio and TV Universities (Wei & Tong, 1994). In 1986, CRTVU was effectively applied to carry out massive scale nation-wide investigation. It became a national 'tracer study' on its 1982, 1982 and 1986 graduates, whose figure totaled over 320,000. The investigation was conducted during 1986-89, and it examined and gauged a variety of feature of the 'quality' and 'usage' of CRTVU graduates.

A few recent reports of analysis point out that in China an enthusiasm has developed amongst the distance teachers , as alteration offers prospects for specializeddevelopment. Some new courses, and the improveddirectness of the networks are inculcatinga sense of what has been portrayed as 'euphoria' amid a few ofthe persons who are engaged in this open-learning system . Apart from all this, quite a few Chinese distance-teachers are devoting time overseas for the purpose of building up and enhancing their ideas. In some cases, they are in the process of attaining higher educational degrees.

Distance Education in Thailand

Human development is the main objective of any country since it ultimately leads to its own development. Education provides ways through which we can attain the goal and generate a learning civilization. Speedy changes in science and technologyis confronting the pattern of the education system in Thailand. The expansion in data and communication-technology offers vast chances to every segment of societies for a substitute, worldwide and cost-effective way of having access to education. Distance education, which is resolutely created invarious nations, is acknowledged as a method about giving lifelong tutoring and self-regulating and interactive learning admittance at all stages with nohindrance. Its expanse extends from the classroom to a verylarge number of viewers by utilizing a wide range of technologies for conveying educational services and various educational courses to off-campus sites, workplace, homes and far-flung villages. Students can take benefits of varied educational formats in the calm of their offices and residencesand crossways geographical blockades. In this manner, distance-learning isdistinguished all over the globe as a practical substitute to campus-based education. For such developing nations   as Thailand, distance teaching, with potential of outreach and economics of gauge, seems to be a hopeful methodology in curtailing educational disparity.

Distance education at Ramkhamheang University in Thailand

Established in the year 1971, Ramkhamhaeng University is a public university. The University provides highertutoring to learners who have either limitations of either monetary, geographic, or educationalcauses. These students do not have any right of entry to the

nation's exclusive-admission universities. As an "academic marketplace," Ramkhamhaeng University espouses an open-admission method to classroom functions in which presence is elective.It provides bachelor's degree programs and master's degree packages in Library and Information Science.

Distance education through SukhothaiThammathirat Open University in Thailand

Set up in the year 1978, SukhothaiThammathirat Open University is the eleventh public university. It is the first factual distance-teaching university in Thailand and in Southeast Asia. It offers gradationas well as non-degree packagesfor taking care of the demands of learners and agencies for personal progress and specialized growth. To improve specialized qualifications of the employed people and to offer more educational openings for secondary school graduates, Sukhothai Thammathirat Open University, provides three-levelsof degree programs: masters, bachelor, and certificate. It performs a significant function in the growth of distance teaching and considers its functions as considerably victorious both in Thailand as well as foreign countries. In 1983, STOU was chosen by UNESCO as the Lead Institution in the Consortium on Innovations in Distance Education for Asia and the Pacific. It gotconferred with the 1992 Asian Management Award in Development Management from the Asian Institute of Management, and the 1995 Institution Award of Excellence from the Commonwealth of Learning and the International Council for Distance Education.

Distance Education in Indian Scenario

The historical perspective of distance education in India can be traced from the period of sixties when the department of distance education started in the University of Delhi. However, it actually happened with the establishment of IGNOU, an open university and regulating agency for distance education in 1985 . Now a days in India there are eleven open universities in the country. There are about forty universities, which offer courses through correspondence. As an alternative to conventional mode of education, distance education still has a great scope for expansion in India.

Establishment of Indira Gandhi National Open University

Indira Gandhi National Open University is a major landmark in the name of open universities in India. Its headquarters located in Delhi and a network of regional and study centre's spread all over the country, the University has brought higher education to the reach of the all sections of society who have desired to meet their urge for education. It has been proved as a major initiative for human resource development in diverse fields, as well as established itself as one of the world leaders in open and distance learning. Apart from its enrollment in Indian in various courses it has an enrollment of around 1.5 million students for its 129 academic programmes in 35 countries across the world. Its main priority is to ensure the right to education for all, and to provide new and alternative learning opportunities. Improved and innovative information and communication technologies have opened up new horizons for growth and development of distance education. It is very much conscious about growing need for continuous skills up gradation, capacity buildings retraining and the importance of life-long learning. In order to meet these above stated

issues, IGNOU is introducing new industry-oriented and development oriented specific course, based on a credible impact analysis. It also aims at improving efficiency and effectiveness of the management of the education in India at the systematic level and utilizes this information and communication technologies appropriately to achieve this objective.

Growth of Distance Education in India

Realizing the fact of increasing importance of education in the overall national development, a number of Education Commissions and Committees were set up in India from to look into the problems of education which are being faced and why it is not being delivered to everyone and also tried to find out solutions for the same. In this perspective Central Advisory Board of Education (CABE), the Government of India constituted an Expert Committee in 1961 headed by Dr. D.S. Kothari, suggested the suitability of everyone for Correspondence Courses so that everyone should get equal opportunity for education without any discrimination. Thus, the first initiative of Open Distance Learning in India was first introduced by Delhi University in 1962 through the School of Correspondence Courses and started giving education to those, who had the inclination and aptitude to acquire knowledge and improve their professional competence. Subsequently in 1968, Correspondence Courses were started by Punjabi University and University of Rajasthan, Meerut and Mysore University and with the passage of time many Universities followed suit. Expansion of the ODL courses took place during the seventies when 19 more universities started Institutions/Directorates of Correspondence Courses. In the eighties, the distance education system expanded further. It was followed by the setting up of Indira Gandhi National Open University by the Government of India in 1985 by an Act of the Parliament. The establishment of IGNOU is considered to be a landmark development in the field of distance education in the country. Beginning from 1962, the growth of distance education has been proved to exponential in the country. In addition to IGNOU, 13 SOUs and about 200 Distance Education Institutions are offering programmes in diverse disciplines. The jurisdiction of State Open Universities offering distance mode programmes is limited to the respective States as provided in their Acts.

Distance Education in Pakistan

The scenario of distance education in Pakistan has been initiated by set up of two universities i.e. one is Allama Iqbal Open University and the another one is Virtual University. Both the universities have bulk of the share of distance education for students in the country. The AIOU was the first Distance Education University of Pakistan which was established in May, 1974 with the aim to spread education by providing access to education particularly to those who want to continue their education without attending the regular classes at the university premises. It is the first Open University in South Asia, which cater the educational needs of around 1.3 million people through its distance learning offerings. It has opened doors for the working professionals and females by making education reach to their door steps. In this regard, since its inception, the first virtual university of Pakistan has played a key role over the years in spreading mass education in Pakistan. Since its inception, the university has played a major role in educating masses and has created opportunities for

millions who benefitted from its distance education courses. The university has also achieved the major target by empowering household girls and women of Pakistan through education, besides this it has been paying attention to the low cost professional and technical education in Pakistan which has become very costly in the recent years.

The University has 9 regional campuses, 33 regional centres, 41 approved study centres (for face to face sessions) and 138 part time regional coordinating offices and they offering more than 2000 courses. It has the largest publishing house in Pakistan with over 1.8 million books printed annually.

Development Phase of Distance education in Pakistan

Distance Education in Pakistan began with by Allama Iqbal Open University (AIOU), Asia's first Open University, with a mandate of providing educational opportunities to the masses and to those who could not leave their homes due to their regular jobs. After the success of AIOU, in 2000, the Government of Pakistan took a new initiative in the field of distance education by setting up a new University Virtual University of Pakistan (VUP). It was established specifically to create more capacity in the system by leveraging modern information and communications technologies. Even though VUP used ICT to deliver education through a distance learning mode, it was not conceptualized as an "Open" University since AIOU already served that market. Together AIOU and VUP serve 750,000 students (with an annual growth rate of 14%), which is three times the student population of all other universities in Pakistan combined (Ansari and Saleem, 2010).

The primary objective of AIOU is to fulfill Pakistan's current shortage of technical and professional education opportunities for the lower middle class and poorer class. AIOU has its headquarters in Islamabad and a network of regional centers spread across the country. AIOU is also one of the 17 members of the Mega University Club (A Mega University is one in which the number of admissions exceeds one hundred thousand annually). In 2007–08, student enrollment was more than 1 million, more than 50% of whom were females and 58% were students from rural areas. The budget for the year 2007-08 was 1921.848 million (Budget section, Treasure's Department, AIOU) and the university gets around 15% as grants from the government and other donors.

Conclusion

In the beginning era of Distance education it has very low or no acceptance evolved, with the passage of time and took a leap in 1970s when organized research work started in the Open University UK in different areas of distance education. Later in 1980s and 1990s major developments has taken place in US and UK provided much recognition to distance education and by the year 2000 in a conference in Sao Palo the discipline had gained so much importance that questions were raised on the status of universities not offering distance education. In present scenario most of the top universities of the world are offering distance education program and millions of students and professionals are benefitting from the offerings; Distance education programs are growing both in the United States ,UK and other nations as well. One of the reason for this growth is related to the ever growing global demand for an educated workforce as well as with the combination financial

constraints of established educational systems. Distance education offers life-long learning potential to working adults and playing a significant part in educating societies around the world. Distance education will become of far greater importance in the United States in the years ahead because it is so cost efficient and it allows for independent learning by working adults. If society is to cope with this growing need for an educated workforce, distance education is the best option for the community as a whole. Apart from developed nations the development of distance education has reached in developing nations like India and Pakistan, but the development in these countries are different from those of developed nations , where students prefer on-campus courses and the trust level of employers on the distance education qualifications is low but with the changing scenario and with the, bombardment of technology the situation is change and people have developed their interest in distance education in order to meet up with the growing demands at work place.

In spite of the above discussion on distance education in some of the developed and developing nations the paper also tried to generalize some fact about distance education in European countries and it has been came to light that how these countries has started distance education in these countries. The European Association of Distance Teaching Universities (EADTU) have combined with Eurostep (which organizes educational television across Europe using satellite) and the Budapest Platform (providing satellite television to central and eastern countries) to develop a system of distance education programs throughout Europe. Distance education programs providing major components facilitating economic progress throughout the world. But still there is a need to focus on establishing theoretical frameworks as a basis for research, and should examine the interactions of technology with teaching and learning. Researchers should address issues of achievement, motivation, attrition, and control.

Distance education is no longer viewed as a marginal educational activity. Instead, it is regarded internationally as a viable and cost effective way of providing individualized instruction. Recent developments in technology are erasing the lines between traditional and distance learners as more students have the opportunity to work with multimedia designed for individual and interactive learning.

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Control and Coordination of Open and Distance Learning in Higher Education : A Study of Regulatory Framework in India

Seema Jagpal and Swinder Singh

Abstract

In today's day and age, the significance of Open and Distance Learning (ODL) cannot be undermined. It is one of the most important factors contributing to social and economic development. Open universities have been described as an "innovative pillar" that have strengthened the participation in the distance education by increasing access to the higher education. Owing to its importance, the number of institutions offering different programmes by the means of ODL have significantly increased. But the growing field of ODL makes it equally important to regulate it effectively, so that quality of service being provided to the learners is not compromised. It is in this context that the paper attempts to discuss the regulation of distance learning in higher education in India. The paper is derived from secondary data collected mainly from websites of the government and international agencies dealing with distance and open learning . Apart from it reports of government of India, research papers and other online sources have also been referred to.

Introduction

Open and Distance education is one of the most important factor which contributes to social and economic development (UNESCO, 2002). Open universities are described as an "innovative pillars" that have strengthened the participation in the distance education by increasing access to the higher education (Darojat et al., 2015). Commonwealth of learning (2015) defines open and distance learning as a "system of teaching and learning characterized by separation of teacher and learner in time and/or place; uses multiple media for delivery of instruction; involves two-way communication and occasional face-to-face meeting for tutorials and learner-learner interaction".

The phrase open and distance learning (ODL) is combination of two words i.e. "open learning" and "distance education". Keegan (1996) asserts that distance education is an "umbrella" term and includes terms like correspondence education or correspondence study (as cited in Moore et al., 2011). Further distance education describes every type of learning arrangements in which "the learner and the teacher are separated by space and time" (UGC). In this type of learning the study material is provided to the learners via both print and electronic medium like T.V., satellite, internet etc and the interaction between the institution, teacher and learner takes place by means of various electronic media, through postal correspondence and limited face to face interactions in the study centres (UGC).

To Escotel (1987) open learning entails removing restrictions, giving credit to the past experiences of the students, flexibility of time and non conventional relationship between the teacher and the taught (as cited in Mridula, 1990). It offers learners the ease regarding entrance and exit, place and method of study, varied options and different combination of courses, criteria of assessment and course completion. It helps in provision of education to the larger section of the public helps in overcoming social and educational inequalities (UGC).

Thus, the term "open learning" implies philosophy which is carried into practicality by the method of "distance education" and ODL as a concept takes on the philosophy of openness and utilizes distance mode of learning (UGC).

In relation to India, ODL holds a significant place in higher education system due its role in increasing the gross enrollment ratios and "democratization of higher education" (UGC). But with the increasing significance of ODL, there has also been mushrooming of various institutes offering distance education where the quality compromised. NIEPA (2006) deplored the random growth of institutions offering distance education and the lower quality of services being provided by them (as cited in Agarwal, 2006). With the regulatory system in India lacking necessary resources and funds, requisite technological support etc to enforce the norms, coupled with lack of zest on the part of the learners for demanding quality services, a situation leading to chaos and mess has been created (Government of India, 2011). It is in this context that the paper primarily attempts to discuss the regulation of distance education in India. The paper, though, essentially dealing with Indian situation, in the beginning briefly throws light on some of the major international bodies dealing with advancement and maintenance of quality of distance education. The paper is based solely on secondary data collected mainly from websites of the government and international agencies dealing with distance and open learning. Also, reports of Government of India, research papers and other online sources have also been referred to.

International Bodies Dealing With Quality in Distance Education

This part of the paper focuses briefly on the three major international organizations dealing with dissemination of quality distance education. These bodies are more of a coordinating than controlling agencies but they provide productive and effective guidelines for development of distance education the world over (Rana, 2011).

Commonwealth of Learning (COL)

Operationalised in 1989, COL is an intergovernmental organization established by Commonwealth Heads of Government. It aims at developing and disseminating the ODL knowledge, resources and technologies. All the nations forming part of the commonwealth benefit from this association as it helps in addressing the crucial learning and development challenges related to the United Nations Millennium Development Goals and Education for all (EFA) targets which include gender equity, environmental protection, sustainable development, and civil rights. It also embraces the Commonwealth objectives of "peace, democracy, equality and good governance" (www.col.org).

India is the third largest donor to the commonwealth of learning and secretary in charge of higher education represents India on its board of governor and executive committee. Further, the Joint Secretary responsible for distance learning is on the advisory council of COL's Educational Media Center for Asia (CEMCA), which is located in India (mhrd.gov.in).

The Asian Association of Open Universities (AAOU)

The Asian Association of Open Universities (AAOU) was instituted in 1987. It is a non-profit organization of higher learning institutions primary dealing with the open and distance education. It aims at expanding the educational opportunities and improving the quality of institutions in Asia with respect to the educational management, teaching and research. promotion of distance education, developing potentialities of open and distance education, cooperating with the official bodies involved in distance education and facilitating collaboration and liaison with regional and international bodies dealing with distance education are major functions of AAOU (*aaou.ouhk.edu.hk*).

AAOU has eight full members and three associate members from India which are given hereafter (*aaou.ouhk.edu.hk).*

Indian institutes which are full members of the AAOU:

1. Institute of Distance and Open Learning, Gauhati university.
2. Tamil Nadu Open University.
3. Dr. B.R. Ambedkar Open University.
4. Indira Gandhi National Open University.
5. Karnataka state Open University.
6. Krishna Kanta Handiqui state Open University.
7. Symbiosis centre for distance learning.
8. Yashwantrao Chavan Maharahtra Open University.

India institutes which are associate members of AAOU are:

1. Mahatma Gandhi University.
2. University of Mumbai.

3. Maulan Azad National Urdu University.

The International Council for Open and Distance Education (ICDE)

ICDE established in 1938 in Canada as the International Council for Correspondence Education, is one of the prime international organizations for open, distance, flexible online and e-learning. With the secretariat permanently situated in Oslo, Norway, it has 60 countries as members from around the world. It is supported by the Norwegian Ministry of Education and Research and partners with UNESCO promoting universal right to education for all. It is continuously enriched by the experience, knowledge, technologies and methodologies of its members.

Following institutions are the members of the ICDE (www.icde.org);

1. Amity University.
2. Annamalai University
3. Birla institute of Technology and Science.
4. Dr. B.R. Ambedkar Open University.
5. Indira Gandhi National Open University.
6. Institute of Secondary Distance Education.
7. James Lind Institute.
8. Rashtriya Vishwa Vidyapeeth.
9. School of Open Learning of The Delhi University.
10. SIDCO-UCPL Courses.
11. Symbiosis Centre for Distance Learning.
12. Yashwantrao Chavan Maharahtra Open University.
13. University of Mumbai
14. Tamil Nadu Council for Open and Distance Learning

The International E-Learning Association (IELA)

The International E-Learning Association (IELA) is committed to promoting e-learning in different academic institutes and workplaces. With members including professionals, researchers and students from across the globe, it aims inter alia at dissemination of information, policies and practices regarding e-learning and develop cooperation with various other associations at regional, national or international level.

The International Association for Distance Learning (IADL)

The International Association for Distance Learning (IADL) is an association constituting of various schools, colleges, online learning platforms, universities, training centers, NGO's etc which impart open, distance and online courses. IADL aims at promoting excellence and quality in open, distance and online education and for this it has set up benchmarks against which consumer world over can adjudge the quality of the courses being provided by an institute.

The members become part of IADL only after the examination of the administrative procedures, methods of delivering the course, materials used for publicity and delivering of the education by the course providers is completed. This is done in order to achieve its goal of assuring quality education via distance and online mode to the learners across the globe

Regulation of Distance Education in India

According to the distance education bureau of UGC, India constitutes the second largest Distance education system in the world after China. As per UGC website, at present the distance education in the country is being offered by the following types of institutions.

- National Open University
- State Open Universities
- Distance Education Institutions (DEIs) at-
  - Institutions of National Importance
  - Central Universities
  - State Universities
  - Deemed to be Universities
  - State Private Universities
- DEIs at Stand alone Institutions
  - Professional Associations
  - Government Institutions
  - Private institutions

As per the distance education bureau (DEB) of UGC, at present there is one national Open University i.e. IGNOU and thirteen state open universities (UGC). And the total number of institutions accorded recognition for offering programmes through distance mode in the year 2014-2015 were 212 (UGC). According to All India Survey on Higher Education (AISHE) in 2014-15 distance enrolment constituted 11.7% of the total enrolment in higher education, of which 46% were female students (Government of India, 2015).

The open and distance learning system was started by Delhi University in 1962 in the form of School of Correspondence Courses and Continuing Education so that those who wanted to, could advance their knowledge and enhance their professional competency. Afterwards in 1968, Punjabi university and university of Rajasthan also started the correspondence courses and in 1969 Meerut and Mysore universities followed the league. During the seventies, ODL courses expanded rapidly with nineteen more universities starting the correspondence courses. But it was in 1982 that the era of single mode open university started with the establishment of the Dr B.R. Ambedkar Open University, Hyderabad in 1982.

But the major milestone in the direction of ODL was the institution of Indira Gandhi National Open University (IGNOU) in 1985. Apart from providing distance education, IGNOU was conferred with responsibility of promoting, coordinating and regulating the open and distance education system in the country. In pursuance of this objective Distance Education Council (DEC) was set up in 1991 under the IGNOU Act. DEC undertook various measures for promoting, coordinating and Maintaining the of standards of open and distance education system and developed guidelines regarding the regulation of the working of the institutes of open and distance learning (Government of India, 2011). The main functions of now dissolved DEC were (Government of India, 2011):

1. Developing the open universities and distance education institutions network in consultation with the State Governments, different varsities and other concerned agencies.

2. Taking steps for ensuring interrelated development of the open university and distance education system in the country.

3. Advising state governments, universities and related agencies dealing with distance education regarding setting up of open universities or introduction of programmes of distance education.

4. Appointment of review committee to evaluate the working of open universities and distance education institutions.

5. Prescribing a broad framework regarding pattern and structure for the courses and programmes.

6. Developing norms, procedures and practices with regards to admission, evaluation, and completion of the course requirements, etc. of the students of open universities and distance education programmes and also with respect to awarding certificates, diplomas and degrees to them.

7. Formulating guidelines regarding student support services with respect to open university and distance education programmes.

8. Appointment of committee to appoint and assist DEC in performing its function or exercising its powers.

But the Distance Education Council raised many eyebrows due to it being seen as a part of or merely as an adjunct to the IGNOU (Rana, 2011; Agarwal, 2006). Rana (2011) rues the fact of the Acts and ordinances of the IGNOU governing the functioning of DEC and it having no separate and distinct identity. Also various voices have been raised against DEC's (statutory body) competency to supervise the working of other universities (autonomous bodies) created by the acts of the respective legislative authority (Government of India, 2011).

Thus, in 2010 Ministry of Human Resource Development (MHRD) set up Madhav Menon Committee for recommending the measure that should be undertaken for regulating the standards of education via distance mode. The Committee inter alia recommended setting up of a new regulatory body for open and distance education system in the country

namely Distance Education Council of India (DECI) and in the mean time to shift DEC to the UGC. Thereafter, the MHRD vide its order, dated 29th December, 2012, handed over the regulatory authority of UGC, which dissolved the DEC and overtook its functions as the regulator of open and distance learning. The Distance Education Bureau of the UGC deals with the ODL at present (UGC).

Distance Education Council of India Bill, 2014

In pursuance of the Madhav Menon Committee report, the Government drafted the Distance Education Council of India Bill, 2014. The bill envisaged to establish DECI for promoting and co-ordinating the distance education system in the area of higher education and for determining and coordinating the standards of distance education. The main powers and function of the DECI as envisioned in the bill were;

1. Laying down of norms, guidelines and standards for various higher education programmes to be imparted through distance education system and specifying the physical and infrastructural facilities, staffing pattern and staff qualifications required for such programmes and enforcing the same;

2. Granting recognition to higher education programmes being offered by distance education system within or outside the country ;

3. Acting as a nodal authority for provision of the relevant interactive technology for distance education;

4. Establishing networking amongst different institutions of higher learning for collective development and sharing of resources;

5. Establishment and maintenance of higher education institutions imparting distance education for providing common facilities and services, and for promotion of research, innovation and training for study learning material course writers moderators and technical personnel working in ODL system;

6. Enacting the norms, guidelines and standards for regulation of online programmes;

7. Regulating the collaborations taking place between dfferent foreign and Indian education institutions providersand preventing the commercialization of distance education in the country;

8. Assessing the financial needs, allocating and disbursing grants out of the Council's fund to a recognized higher education institution proffering programmes via distance mode as stipulated by the regulations;

9. Developing guidelines for charging reasonable fees by higher education institutions disseminating distance education;

10. Advising the Central and State Governments, Union Territories, Universities and Open Universities, on the issues which are referred to it.

Further the act provided that after the commencement DECI, no higher education institute shall offer distance education without its prior permission and those already offering it shall seek recognition within six months. If any institution contravenes the provision of the

act, the council may withdraw its recognition after providing it with the due opportunity of being heard. The Act also provides for payment of such sum of money to the council by the central government as may be required by the council for its effective functioning. The fund has to be created by the council to which all money is to be credited and from which all the payments are to be made. The council needs to maintain its accounts which shall be audited by the Comptroller and Auditor-General of India whenever he deems fit.

Latest Development

The Distance Education Council of India Bill, 2014 has not been enacted. In pursuance of regulating the open and distance education in India, the UGC (Open and Distance Learning) Regulations, 2017 came to force by being notified in an official Gazette on 23.06.17. These Regulations prescribe the minimum standards of instruction that should be maintained in Open and Distance Learning mode to grant the degree at the undergraduate and post-graduate levels. These regulations apply to all universities established under Central Act, State Act or a Provincial Act and other institutions as mentioned in Section 2(f) and Section 3 of the University Grants Commission Act, 1956. These regulations cover all degree programmes for the undergraduate and post-graduate classes except engineering, medicine, dental, pharmacy, nursing, architecture, physiotherapy and such other programmes as are not allowed by the other regulatory body. Following are some of the significant provisions of the 2017 regulations;

1. Every higher education institute offering open and distance learning should get recognition from University Grants Commission (UGC) at least 6 months before the commencement of the new session, irrespective of the fact that they have been previously been recognized by the Distance Education Council or UGC.

2. A regular functionary having professor rank should head the ODL center of the higher education institute imparting open and distance learning.

3. Any institute of higher education/university established by or under the state act shall carry its operation only within the purview of its territorial jurisdiction as given under the Act.

4. A private university may be allowed to open offshore campuses or campus centres or study centers not before 5 years of its coming into being on fulfilling the conditions laid down under the University Grants Commission (Establishment of & Maintenance of Standards in Private Universities) Regulations, 2003. Till now no private university has been allowed to set up off shore campuses by the UGC.

5. A Deemed University should carry on its operations within its Headquarters or from such off campuses or off-shore campuses as are given approval by the Government of India via notification in the Official Gazette.

6. Standalone institutes i.e. institutes not affiliated to any University under the provision of the Act can no longer provide any course in ODL. These institutes can only provide ODL if they acquire the status of University or deemed University.

7.   Every higher education institute offering open and distance learning should set up an internal quality assurance center within a year of enforcement of the 2017 regulations.

8.   Higher education institutes offering open and distance learning should set up learners support centre within one year of the enactment of the rules

9.   Appointments of all academic staff of such institutes should be made as per the qualifications of mandated by the UGC.

10. Higher education institutes offering open and distance learning should use ICT in teaching and other activities.

11. For development of High quality e- learning content, skilled and competent professionals should be engaged.

Concluding Observations

In today's day and age, the significance of open and distance learning cannot be undermined. It helps in providing education to various sections of the society, who otherwise would not have been able to pursue higher education due to limitation of time, money, travel etc. Owing to its importance, there has been multiplication of institutions offering different programmes by the means of ODL. But the growing field of ODL makes it equally important to regulate it so that quality of service being provided to the learners is not compromised.

Regulation of ODL was initially entrusted to distance education council (DEC) created under the IGNOU Act of 1985. But due to internal contradiction of regulator DEC being intrinsic part of IGNOU, there was clash of interest. Also for the long time the feeling had been brewing up in the higher education sector that the regulation of ODL was not up to the mark. The latest UGC (Open and Distance Learning) Regulations, 2017 are a step towards maintaining and enhancing the quality of ODL. It clearly provides for the institutes which are eligible to offer ODL courses, specifies their jurisdiction and standards to be maintained by them, which will be instrumental in controlling the mushrooming of institutes providing ODL courses and maintaining the quality.

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From the Archieves

Distance Education : Problems and Challenges*

Bakhshish Singh

Every system, every organisation or institution is bound to face challenges to some extent, and I feel challenges help in improving things as otherwise we would become complacent and over confident which attitude would hinder improvement, innovations, quality improvement and success. When a new system is introduced or a new institution established there are bound to be greater challenges and problems and the organizers must be prepared to face them boldly and do their best to meet the challenges and resolve the problems in order to establish credibility and reputation of the system and institution. Although Distance Education in a way is not a very new system as it has been in vogue in some form or the other for over a century. But the system assumed a proper shape only during the last two decades or so. In that sense it is a new system and therefore it is still faced with quite a few challenges which must be met with an open mind. However, that should not make us pessimistic, particularly when quite a lot has been achieved to resolve problems during the last three decades. The system has grown tremendously all over the world and it now compares favourably with the age-old class room teaching system which is elitist, conservative and rigid. The Open University teaching-learning system established in a number of countries over the world has been a bold and successful venture symbolising the openness, innovative and flexible characters of the distance education system. The distance educators can now hold their heads high and need not suffer from any inferiority complex. However, we must continue for further improvements in order to achieve excellence. And that can be done by understanding and resolving the challenges and problems that we may still be facing. In my view based on my personal experience over the last twenty- one years, my interaction with distance education experts in different countries and my readings of various publications on distance education the challenges that distance education is faced with are:

1.   **Quality of content**, comprehensibility and printing of course materials. This particularly applies to correspondence courses institutes or distance education departments established by the conventional universities. And the main reason for that is that the conventional universities do not allow the requisite flexibility and innovations which are a must for the distance education system. Unfortunately this problem is faced by most of the distance education institutes and even open universities because most of their teachers

are also drawn from the conventional system. The academics in the conventional universities are generally averse to changes— and innovations in the curriculum. Most of them are obsessed with the idea that there can be no teaching without face-to-face: contact. They probably deliberately shut their eyes to the deterioration of standards, irrelevance of their system to the needs of society and the new developments in the field of communication technology. They also don't seem to realise that the quality of quite a few of their teachers is much below the mark and face-to-is much below the mark and face-to-face contact between such teachers and the students hardly serves any purpose. The general attitudes of most of the teachers and students in the conventional system is hardly conducive to proper learning. Most of the conventional universities in many countries, these days, are plagued by agitations and indiscipline resulting in drastic lowering of teaching hours and standards. Moreover, the ever-in-creasing demand for education at all levels in most of the countries can no longer be met by the conventional universities, colleges and schools. They have reached the saturation point and most of the nations can not afford to open new universities, colleges and schools because of the high cost factor. In fact that is the main reason why distance education system is being adopted by most of the countries, particularly the developing countries be-cause you can teach for larger numbers at less than even half the cost of the Conventional System thereby dernocratising educational facilities. However, we should not draw any satisfaction from the limitations or drawbacks of the Conventional System. We know that course material is the main stay of teaching through the distance education system and it must therefore receive our greatest attention. Some of the important steps to ensure quality if course material are:

- innovations in curriculum which should not be stereotyped.
- relevance of curriculum to the needs of learners.
- selection of really good teachers/teams for writing the course material.
- impartial and thorough editing of the content of course material to ensure that it is self-learning material in the real sense of the word.
- is factually correct and up-to-date, is within the comprehension level of the learners, is written in simple language, it carries a list of suggested reading by the students.
- format editing of the course material in accordance with the distance concepts to ensure that:
- it is put across in a personal style
- it is set in a standard format
- it has built-in exercises such as self-check exercises to help self learning.

The printed course material should be dispatched to the students strictly according to the schedule which ought to be intimated to the students in the beginning. The distribution could be organised through mail, through Study Centres or at the institute according to the students' convenience and option.

The course material must be printed strictly according to schedule. There ought to be periodic review, revision and updating of the course material on .the basis of feedback from learners, teachers/tutors and advice of subject experts.

2.   Students' Assignments: Another aspect connected with the course material is student assignments (SRS) . The institutions must ensure proper and careful evaluation of SRS by teachers/tutors with helpful and detailed comments/suggestion and prompt return of the evaluated assignments to students within the shortest possible turn-around-time lest they should lose interest in submitting them. The turn-around time can be considerably reduced by using computers for the evaluation of objective type assignments. We may therefore have two types of assignments - computer marked (objective type) and tutor-marked (essay types). This aspect presents a very formidable challenge which calls for serious attention of the distance teaching institutions in order to ensure the success of this important non-contiguous two-way communication between the learner and the teacher/tutor. It would greatly help the learner to overcome the feeling of isolation in the system of teaching at a distance. The learner will have the feeling that there is some one to look after him/her. Another important point in this regard is that the assignments must be such as may require some thinking and originality on the part of the learner so that he/she doesn't copy out answers from the course-material supplied to him/her. These assignments should he treated as internal assessment of the learner's performance and given adequate weightage, say 20-30 %. The weightage for the end-of-term examination would thus be 70-80 %. The assignments could form a part of each block of 4-5 (units) and supplied to the students as- a part of the last unit of each block or separately printed and sent along with the last unit or the block. It should either be compulsory for the students to submit assignments or else they should lose the weightage given to the assignments.

3.   New Communication Technology Since distance education is a multi-media teaching-learning system , integration of the new communication technology presents another challenge which must be met if we are to make the system successful. It is not s) difficult for the developed countries to achieve this objective but the developing countries have certain limitations. Highly sophisticated communication technology may not be feasible for them for want of funds as also for non-availability of necessary gadgets/equipment with the learners. However most of the developing countries can make uses of the Radio, Television, Audio and Video Cassettes to supplement instruction imparted through the printed course material. As Lord Perry puts it, 'two-way communication', both audio and video, is they key to the acceptance of distance education methodology. Most of the open universities, even in developing countries have adopted reasonably good communication devices, but the distance education/correspondence courses institutions have not paid, adequate attcniior to this aspect. There is now a v range of communication technology devices available and open universities in the developed countries have adopted quite a few of them/e.g. an extremely versatile audio-visual teaching medium based on the conventional TV Set, standard audio cassettes and micro-computer technology developed by the O.U.in U.K. Cyclops, (as in U.K.), Telidon-a Canadian Video Sys-tem, Radio tutorials/Radio conferences as in New Zealand and Australia, telephone for tutor-leaner, leaner-learner, tutor-learners in

a group, tutor learners in several groups by which a teacher can lecture upto 200 classes, simultaneously/and cover 40,000 students as tried by Wiscons in university, USA, conferencing/seminars with tutors by linking several telephone numbers of students or seven study centres, self-help conference cells by which students can interact with one-another on the telephon..Lot more developments are expected in the field of communication technology. But as mentioned earlier a distance education institutes in the developing countries which cannot afford to in for higher sophisticated communication technology will have to adopts a raional and practical approach in selecting a judicious mix of the communications media relevant to their needs and in keeping with their resources. Most of these countries can probably afford to adopt a mix of Radio, television, audio and video cassettes. Television has great potential and its visual aspect makes it more effective than the radio. This has been amply proved by some universities of the Air, Tele Universities and Open Universities.-Distances Education Programmes through this medium can benefit the general public too in addition to the students. In fact distance education institutions can be the pace-setters for the conventional universities for adopting new communication technology to reinforce their . class-room teaching method which probably would soon become a necessity for these universities.

4.   Collaboration among distance education institutions/open Universities at the provincial, regional, national and international level is another challenge which calls for very careful consideration. This would help in

- Pooling of resources

- Wider choice of course offerings

- Reduction in costs

- Mobility of students

- Sharing a Exchange of expertise etc.

       Some very significant initiatives have been taken n this direction by forming national bodies of distance education, international bodies like the International Council for Distance Education (ICDE), European Home Study Council, Association of South Pacific & Asia (ASPESA),Canadian and British Associations of Correspondence/Distance Education Institutions. The latest and most effective initiative has been taken by the Commonwealth Countries by establishing the Commonwealth of Learning (COL) in Vancouver, Canada. I am sure these initiatives will go a long way in bringing about collaboration and net-working of distance education institutions, including the open universities. However, bolder steps need to be taken at the national level, specially in the developing countries. That would avoid duplication of distance education programmes and courses at least in subjects where the content is more or less similar. It would also help in further reduction of costs.

5.   **Staff Development** : Lack of adequate initiatives and efforts for staff development is yet another very important aspect which has received scant attention of distance education organisations. Most of the teachers for distance education institutes are drawn from the conventional universities and they put them on the job without giving them any training. The

result is that many of such teachers resist innovations aimed at making curriculum more meaningful and relevant to the needs of the leanrers and society. As such it becomes a problem to break-away from the traditional pattern in the conventional universities. Moreover such teachers who are used to the closed classroom teaching find it difficult to adapt themselves to the multi-media distance teaching methodologies. Even the external experts generally try to impose the con-ventional university pattern while helping the distance education institu-tions in designing curricula for their programmes and courses. Although some parity has to be maintained so that, the conventional universities and equivalence bodies give recognition/accreditation to the programmes of distance education institutions, we must not totally succumb to the pressures of the conventionalists. Of course, from my personal experience at Indira Gandhi Open University I can say that some of the experts had open minds and were in favour of changes from the traditional pattern. Therefore with a little bit of discussion and persuasion we generally succeeded in bringing them round to our view point to ensure that our cur-ricula are innovative, meaningful and relevant to the needs of learners. Un-fortunately the distance/correspondence education institutes tagged to the conventional universities have no such scope and they are more or less mere extension centres of their conventional universities. However, with coming in of COL and the active interest that some of the other international and national bodies of distance education are taking things, seem to be looking up, and I am sure the much needed collaboration and networking at the national and international level will take some shape. That would be very useful stride towards achievement of excellence, innovations and relevance of distance education programmes and courses. And I am sure this would ultimately makes the conventionalists also to follow 'our pattern in their universities.

This could then lead to th very much needed mobility of stude is from the conventional universities to distance education institutions/o -n univer-sitie3 for doing some co rses which they consider more relev nt to their needs, and vice versa. I his kind of mobility of students betw en the two systems would provides choice of course offerings to the lea ers. As for as staff develop ent is con-cerned, recently some ourses for training distance educat rs have al-ready been launched e.g.

- A course on Essentials Education by Borje Hol University , Hagen, Germ Diploma in Distance Education by Borje Holmberg-Fern University, Hagen Germany.

- Diploma in Distance Education courses of the International Extension College and the University of London Dept. of Education.

- Post-graduate Diploma in Distance Education of Indira Gandhi National Open University.

- Surrey University Course on Distance Education U.K. *

Distance education institution, should make it obligatory for their teachers to do one of these courses, or at least encourage them to take up some such course. In due course of time it could be laid down as an essential qualification for the recruitment of teachers. However, the institutes and the national bodies of distance education should at their own

level organise short Training courses/seminars /workshops/ refresher courses for their teachers.

6.   Student Support Services : Student Support Services which have come to be recognised as an important and essential feature of distance education/open university system poses a formidable challenge to the distance education institutions. Except for open universities and some well or-ganised institutions, others hardly pro-vide any worthwhile student services. Although printed course material is designed to be self-instructional we can not deny the facts that it is mass produced and that distance education learners vary greatly in their motivation, learning styles, level of com-prehension etc. That is why now even the course writers have come to recognise the need of providing some kind of support to the distance learners who hardly get a chance of interaction with their teachers and fellow students. This gives some of them the feeling of isolation and results in large drop-out rates.

The Open Universities have given the lead in organising a network of student support services to help their learners who are scattered over large areas. But most of the correspondence/distance education institutions do not provide any support services and the study centres set up by some of the institutes are just an apology for Support Services. In fact if we study the impact of Support Services provided by some of the Open Universities/ distanee education institutions, one would realise that a well organised Support ' Services serve as the nerve centre of the system. These services which can be of many types help the learners in :

- better, comprehension of the course material

- overcoming the feeling of isolation and individual frustrations. * reducing drop-out rates * supplementing the perinted course material through counseling tutoring and face-to-face contact programmes. * providing real multimedia teaching to the learners through audio and video cassettes. Counseling, interaction between the teacher and the learner and among the students as well. * feeling that he/she is better served and looked after in the pursuit of his studies.

  Considering all these advantages, distance education institutions should give special attention to the provision of student Support Services and regard it as an essential and fruitful investment. It would, as Michael G Moore puts it (ICDE Bulletin, Vol.14, May 1987) "ensure proper exploitation of the much more expensive distance teaching materials, and bring about improvement in the distance education system.

  Apart from providing academic counseling, face-to-face contact programmes and evaluation of students assignment by counsellors/tutors, the study centres can serve as

- information cells to provide necessary information and guidance to the potential clients and new entrants to the system.

- centres for assessing local needs which would help the institution to design relevant programmes/courses.

- meeting place for interaction between the learner and the teachers through socializing & interaction, counseling and face-to-face contact programmes reading rooms for learners

- good library centres with multiple copies of texts, suggested books for supplemental reading and course materials.

- centres for listening to audio cassettes and watching Video Cassettes and T.V. Programmes.

- centres for social and cultural activities to reduce the boredom of the learners

- centres for delivery of course materials and receipt and return of students assignments.

- centres for distribution of Admission brochures, registrations, admission forms, and fees etc. etc.

As regards the form of Support Services there can be many forms which have been tried and adopted by OUS and some distance education institutes. But much will depend upon the availability of finance and resources. If the resources are limited as in the case of developing countries maximum utilization should be shade of the local resources available in schools, colleges and universities for counseling, evaluation of student assignments, contact programmes etc. But it would be absolutely necessary to appoint a coordinator at each study centre with adequate office an library staff. Efforts could also be made to organise students help groups at different places. A well-stocked library and reading room facilities are a must. It would also be necessary to arrange effective monitoring of activities at the Study Centres. Funds permitting this could be achieve by setting up Regional Study Centres for a cluster of study centres in different region. We should also remember that one of the important objectives of distance education is to democratize education and to take it to the very door-steps if the backward sections of society in remote rural areas. It would therefore be helpful to organise a few mobile study centres to achieve this objective. There mobile centres could get en-couraging publicity for the institutions among the people in these areas to take up courses offered by the institu-tion. It would particularly benefit the females who fight shy of going to the cities for acquiring education.

Since the number of distance education institutions is considerable and is bound to increase further we should strive for collaboration among these institutions in order to cut down costs. Another factor, already discussed under Staff Development is very much applicable here for training the coor-dinators and coounsellors of Study Centres so that there may be some kind of uniformity and reasonable standard in the activities of these centres. But we must give due priority to the build-ing up of a proper Student Support Services to make distance teaching-learning a really sound and effective system which has a great role to play in the spread of education and dissemination of knowledge all over the world.

7.   Research : Research in any educational system is a must, more so in a new system. Unfortunately very little has been done in this direction by most of the distance education institutions. Of course some universities and inter-national organisations have done some useful research, and here I would specially mention Fern-Universitat, Inter-national Council for Distance Education, Open University of U.K. which have been doing considerable work in the area of research on distance education. Some other open universities like Athabasca university.

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Second
Annual Convocation
Address

ODL and Revisioning of Higher Education in India

Ashok Thakur, Former Secretary, MHRD

It gives me great pleasure to be present here today and to deliver the Annual Convocation Address to the students and faculty of the University School of Open Learning Panjab University. Personally, it is a great opportunity to reacquaint myself with my alma mater. It is for this reason that when the Vice Chancellor asked me to be the Chief Guest and deliver the Annual Convocation Address, it was difficult for me to refuse. It was he who way back in the 70s had the foresight to see the need and potential of taking education beyond the class rooms for the benefit of the less privileged and the working learners and set up the Department of Correspondent Courses which later became the University School of Open Learning. Today USOL is one of the leading institutions in the field of Open and Distance Learning (ODL) in north India.

In my address today I will be highlighting the importance of ODL globally and how it has taken the world of teaching-learning by storm; what are the steps the country needs to take keeping in mind the current regulations and the future challenges.

It is difficult to believe, but distance education has been in existence since the long. The first correspondence course on record was Sir Isaac Pitman's shorthand course in the 1840s and the first university to offer distance learning degree was the University of London in 1858. These programmes were typically through correspondence, requiring learners to read study materials, submit assignments and tests via mail and await results. However with the advent of Internet and World Wide Web, a paradigm shift has occurred in the way we look at distance learning or rather the entire education system as a million possibilities have opened for creating a brave new world of Education. Those who shun or ignore technology will perish; those who embrace flourish.

The reason why ODL is rapidly gaining ground worldwide is that it has something to offer to all-the education provider, including the government, the employer and the learner.

Firstly, The education providers find it attractive because it is cost effective and rapidly scalable. Even in the developed world, with the continued world economic slowdown, the Massive Open Online Courses (MOOCs), which is a new avatar of ODL, is threatening to demolish the very idea of a conventional university system. With more than $ 1.2 trillion of unpaid student's loans in the United States, more and more parents and students seriously

doubt the conventional model. On an average a student studying in the US annually shells out USD 60000. My own experience of working in the Ministry of Human Resource Development says that one cannot set up a new University or an HT for less than Rs 1500 crores apiece. According to an estimate made by the Ministry some years back, in order to reach the target of 30% GER by 2020 the country needed more than 1000 new universities and 31000 new colleges with an astronomical fund requirement of Rs 9 lac crores ! Can this ever be achieved physically, leave alone the resources required?

It is because of the writing on the wall that Oxford University, University of London, University of Cambridge and other "high-visibility universities" offer over thousands of online and distance education courses and programmes. Ivy League schools such as Harvard and Cornell offer distance education programs, along with the top 10 largest online schools based in the US.Coursera and edX are the new kids on the block. These schools cover a gamut of programs, from arts and humanities, business and management, computer and information technology, health, law, science to skill building. Almost one in six students enrolled in undergraduate studies in Brazil enters into a distance learning course. The number of distance learning students in Russian higher education programmes increased by more than 50% from 2000 to 2010. Though India and Africa are the hotspots. China is not far behind with its massive resource allocations. Recognizing the importance of distance education, all over the world more and more traditional universities are rapidly transforming themselves from single mode to dual mode universities, in providing students with the best and most up-to-date educational resources.

In our country's context, we had resolved to achieve an enormous target of 30% Gross Enrolment Ratio (GER) by 2020 during the 11th Five Year Plan at which point we were struggling at 11%. Today it is heartening to note that with the efforts of all, India's higher education system is not only well poised to reach the above figure of 30% but has already become the largest higher education system in the world with more than 29 million enrolments (AISHE 2012-13) and GER of more than 21%. And ladies and gentlemen I would like to mention that ODL has no mean contribution to the overall achievement of this target. Today 3.5 million students are enrolled in the distance mode constituting more than 12.5% of the total enrolment through IGNOU, 13 Open Universities and Institutions like yours. Without your contribution the target would have remained merely on papers.

For the learner ODL means increased access and flexibility as well as the combining work with education. It also has the potential to generate new patterns of teaching and learning with a learner-centric approach and an opportunity for lifelong learning. Information and Communication Technology (ICT) in class rooms has already made conventional style of teaching redundant. It is no longer a one way affair as the teachers now need to be constantly on their toes as information is available to all on the Internet. In the years to come I see the dividing line between the brick-and-mortar Universities and ODL, blur and eventually disappear. Teaching-learning process will become more blended and a joint efforts. With the courseware and learning material available on the Web and mode of delivery through multimedia, the teachers all over the world are reinventing themselves as mentors rather than "lecturers.

As far as the employers or the industry is concerned, the ODL system offers high quality and usually cost effective professional development in workplace. This is especially important for India where we have a make or break situation coming up in the next ten years in the context of skill building and vocational training. India has the youngest population in the world with median age of 26 yet only 4% of our workforce is skilled. Our conventional ways of dealing with issue have not inspired much confidence either in terms of outreach or quality. This space has to be occupied by innovative measure including those through the ODL system. The Community College scheme of the Ministry of Human Resource Development (MHRD) can provide a good model by which skills can be mainstreamed into the education system in tandem with the industry and the Sector Skill Councils within the framework of National Skill Qualification Framework (NSQF) which now has the stamp of approval of Government of India.

I would now like to dwell on the roadmap that the country needs to follow in order to take its education system to the next level.

But before that I would like to summarize the achievements of the country so far in the area of ODL. It is a matter of pride that our country was one of the first to recognize the importance of ODL when it set up IGNOU way back in 1985. Today it is one of the seven key players in the global higher education distance learning market. Acknowledging the contribution of IGNOU and ODL system in addressing social and economic developments of the nation, the 12th Plan document of the Government of India perceived a major role for the ODL system in meeting educational and training needs of the nation. The ministry of Human Resource Development through its $ 1 billion National Mission on Education through Information and Communication Technology (NMEICT)will be engaging IGNOU, Open Universities and institutions such as yours, not only in matters related to connectivity and outreach but also in innovative content development. Few people know that today IGNOU has emerged as the world's largest Open University system. The size of its operations is impressive. Addressing the needs of 2.7 million students is indeed a daunting task. The contribution of IGNOU in content generation across 228 programmes offered through 21 Schools of Study is in itself a lasting testimony to the influence and impact of the University not only on the Indian higher education system but also on certain other developing countries especially in Africa. In terms of quality the University has been awarded for excellence in the quality of instructional materials by the Commonwealth of Learning Canada.

My first recommendation for higher education in general and ODL in particular is to focus more than ever on ICT, ODL without ICT is an oxymoron. As a developing country, with a huge name in Information and Communiucation Technology, it is imperative that our universities both open as well as conventional harness the potential of technology. Already through the National Knowledge Network and MHRD's NMEICT, more than 400 Universities and 20000 colleges have been connected with the objective of sharing study material, guest speakers and faculty, virtual laboratories etc, as one huge national class room. All Open Universities including institutions like yours should have a road map of switching over to the ICT mode and provide MOOCs like programmes in the next three years. The days of correspondence courses and postal addresses have gone away. In this hugely

competitive world those who adapt shall survive and the others perish. Those not included can however take heart as the first distance course through Internet was delivered barely 20 years back in 1995 from the Penn State University in the USA and first use of the term e-learning occurred only in 1999. Those of us who are mulling over the issue need to take a leap of faith and set an example for other fence sitters. However as far as offering regular degrees through MOOCs is concerned the time has still not come. We need to wait and watch but in the meanwhile quickly come up with a regulation lest the squatters move in. And lastly needless to say the use of ICT has to be preceded by a reduction in the digital divide as otherwise it can lead to greater inequalities.

Secondly, clarity as to who is the' Regulator in ODL is very essential. The Madhav Menon Committee had observed that IGNOU through DEC cannot be a regulator as it is a university like any other. The present position is that till the Distance Education Council of India (DECI), a new independent regulator is created under an Act of Parliament, UGC and AICTE who are already empowered under their respective Acts, will also be the regulator for general higher education and technical education in the ODL made respectively. Universities are empowered under their respective Acts to offer any programme/course including in Technical Education in the conventional mode. However, if they offer any programme/course in ODL mode, they would require recognition from the UGC, AICTE, NCTE and other such regulators of the conventional mode of education in those areas of study.

Thirdly, the ban imposed by AICTE on Technical and Professional Education programmes through ODL mode, except MBA and MCA, has been reviewed in consonance with the Madhav Menon Committee Report. In the meanwhile AICTE is to ensure quality technical education through ODL mode under certain conditions stipulated by Dhande Committee. However this is a tricky area and needs to be treaded cautiously as we cannot risk commercialization by fly by night operators and dilution of standards.

Fourthly, we will have to increasingly view distance education system at par with conventional educational systems. One often hears about step motherly treatment meted out to the degree holders from the ODL system. This can only end if the curriculum, course and the examination is of the same level as general. I am glad to learn that in this regard Panjab University abides by this golden rule and the students of USOL are subjected to the same rigour in terms of curriculum and examination as the others.

Fifthly, teacher education is one such area where ODL can play a major role. Education is a seamless whole and cannot be segmented into school and university. The teacher education programme for elementary school teachers is a burning issue and this challenge needs to be dealt with squarely by IGNOU and other Open Universities. Though IGNOU works closely with KVS and several State Governments to improve teachers education in schools much more needs to be done.

Sixthly, technology knows no boundaries and this offers India a great opportunity to gain good will as well as soft power amongst developing countries through Internationalization of Indian education. Though IGNOU has been working especially in

Africa, sky is the limit for further more collaborations. The PAN-African e-Network project as well as the India Africa Virtual University (IAVU) needs to be taken forward earnestly.

Finally, I would like to say that there is no substitute for quality as that and only that will determine your future. For example I was particularly pleased to learn that last year IGNOU had opened admission for only 153 programmes against more than 400 programmes in the previous year but registered a growth of 15%. This only goes to prove that when there is no compromise in quality the demand will only increase. The ODL institutions should also comply strictly with the observations of the High Courts that blended mode of teaching is sine qua non for ODL. The Madhav Menon Committee Report also talks on similar lines that the universities should offer ODL programmes within the boundaries of the State as per their Acts and to have effective study centers. Most importantly IGNOU and the 13 Open Universities must join hands in setting up an independent and an accreditation system for the ODL in the country at an arms length from the regulator on the lines of National Board of Accreditation.

Today, all of you will be receiving your degrees. Overcoming several difficult challenges, you have earned it by dint of your determination and hard work. However degrees are mere markers; what is important is to continue with your quest for knowledge through lifelong learning. While congratulating you, I view you as torch bearers entrusted with the responsibility to promote innovative thinking and development in your own communities and work places. Be the harbingers of change that you are in whatever place or level you are working. At a personal level I wish you all get your dream placements; to the already working, I wish them elevations and speeding climb to the top. Once again my best wishes shall always remain with you.

I also congratulate Prof. Arun K Grover the VC of Panjab University, Chairperson of USOL and every member of USOL community for taking the School to new heights and turning the dreams of its founders to the reality.

JAI HIND

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