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Online Media for Higher Education: Contributions of Consortium for Educational Communication in India

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Abstract

This paper attempts to highlight the Higher Educational programs being developed by Consortium for Educational Communication (CEC); in collaboration with various higher educational Institutions (HEIs); especially to run Web-based distance learning program. The Indian higher education scenario has changed drastically and there have been many changes due to the incorporation of e-education and globalization. University Grants Commission (UGC), New Delhi (apex body of higher education in India) in its 12th Five Year Plan (2012-17) aims at achieving rapid expansion for deepening excellence and providing equal access to quality Higher Education. There has been an unprecedented growth in the number of institutions in recent years which has grown from 621 in 2010-11 to 799 in 2015-16 or by almost 30 per cent. The number of students enrolling to Higher Education has also witnessed exponential growth in last five years. As per AISHE report 2015-16 the enrolment has increased from approximately 29 million in 2011-12 to 34 million (approx) in 2015-16. Also there has been substantial progress in terms of overall Gross Enrolment Ratio (GER) in the country during the same period. Gross Enrolment Ratio (GER) has increased during the last 5 years, from 20.8 in 2011- 12 to 24.5 in 2015-16. Considering the present trend both in number of institutions and students, introduction of online courses is a wise decision as it might help in filling the gap between number of students enrolling for Higher Education *vis- a- vis* new colleges and institutions being developed.

The paper aims to compare and contrast pedagogic value of online courses developed by CEC largely in English as a medium of instruction and globally produced and used online courseware

by top international universities. Since higher education is offered both in over dozen state languages and in English there is a need to weigh the relevance and utility of online courses in English. The author raises the question as to how online courses are enhancing, the teaching and learning process; or help motivate and encourage students in their pursuit of higher education. Will online courses, due to higher accessibility help better learning? The paper is based on the existing literature and supplemented by personal observations of the author.

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Higher Education in India

The independent India since 1947 has pursued the philosophy and approach of a planned program of development in different spheres of life. It launched its first Five Year Plan in 1951-52; the Twelfth Five Year Plan just completed a few months back (2012-17). Till sixth Five Year plan, education was taken to be a social service rather than an input to the development process. The twelfth Plan places an unprecedented focus on the expansion of education; on significantly improving the quality of education imparted and on ensuring that educational opportunities are available to all segments of the society (Planning Commission, Government of India - GOI, 2013). During the Twelfth Plan, UGC initiated a concept of Meta University; the main purpose of it was to share learning resources by different Universities by using latest information

technologies available in order to enable students to benefit from learning resources available in different institutions. Meta Universities represent second Generation Universities, free from physical boundary conditions and able to operate in virtual space, taking advantage of the innovation and flexibility possible in such domains (Ministry of Human Resource Development - MHRD, GOI, 2015).

The present educational system in India is a legacy of British education. Higher education in independent India is been perceived as an instrument of social change for future egalitarian society which would further lead to better economic opportunities for the educated professionals. The Indian education system has evolved a long way since the 'Gurukul' tradition, innovative use of technology in exchanging ideas and providing access to more people far and wide. The beginning of the present university education goes back to the mid nineteenth century when three universities, namely Bombay, Calcutta and Madras were set up in 1857 in three British colonial Presidencies of India. These universities were transplanted on the Indian soil on the lines of London University which was then a purely examining and non-teaching body. There has been an unprecedented growth in the number of institutions in recent years. Today a large number of state and central universities and institutions of higher learning are supported by either central or state governments or both. India has made a steady progress from the crude literacy rate of 16.67 per cent in 1951 to an adjusted literacy rate of 74.04 per cent for the population above seven years in 2011 (GOI, 2011). During pasts70 years, India's population has increased from 361 million in 1951 to 121.02 million in 2011 (GOI, 2011).The figures for literacy rate in urban and rural areas of India stood at 85 and 68.9 per cent respectively (GOI, 2011). As per the Government Open Data Platform, there are 25,938 Colleges for Professional Education in India as on 2009-10. Higher education has also witnessed exponential growth during last five years. The enrolment has increased from approximately 29 million in 2011-12 to more than 34 million in 2015-16. The overall growth is 18.5 per cent (MHRD, GOI, 2016). Considering the present trend both in number of institutions and students, country is likely to touch a Gross Enrolment Ratio (GER) of 30 percent by the year 2020 (Elets Technomedia Pvt Ltd , 2013). Most importantly one needs to note that though India has the second highest higher education enrolment in the world (EY-FICCI, 2014) and also the largest number of higher education institutes only a handful feature in global rankings.

Looking at the growing population and in response to the ever- increasing demand for higher education which could not be met by the conventional system. Available literature indicates that in 1962, India adopted the open and distance education and mode of learning. First School of Correspondence Courses and Continuing Education was established at Delhi University (Rathore, 1993)(MHRD-NIC, 1994). The establishment of Indira Gandhi National Open University (IGNOU) at New Delhi in 1985 has proved to be a significant milestone in the development of distance education in India after establishment of Dr. B. R. Ambedkar Open University in Andhra Pradesh in 1982. The distance education system in India contributes to a quarter of student enrolments in the higher education system out of the total enrolled in the Indian Higher Education Systems (Rai, 2016). Distance enrolments constitute 11.05 per cent of the total enrolment in higher education (MHRD, GOI 2016, 2016). Distance Education provides a second chance to those people to go for higher education who could not otherwise study regular courses because of their handicaps, job requirements, sex or because they could not get admission in the regular colleges

The Aim

The aim of the paper is to highlight current state of online education in India in the global competitiveness and identify the barriers which are hindering educational progress.

Educational Multimedia Research Centre (EMRC) Ahmedabad

Educational Multimedia Research Centre (EMRC)[1], Ahmedabad has prepared in total five MOOC courses to be run on UGC-SWAYAM platform in the past one year. Of these, two[2] went online on 1st July, 2017. For research, the author (researcher) has reviewed the available literature and also analyzed her observations of the online MOOCs course production and launch on SWAYAM platform. The analysis presented in the paper is largely based on, as a participant observer of online MOOC courses delivered from EMRC Ahmedabad.

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[1]EMRC are Media Centres set up by UGC for production of educations programmes and subsequently CEC emerged in 1993 as a nodal agency to coordinate, guide & facilitate such Educational production at the National level. Today 21 Media Centres (EMRC's) are working towards achieving this goal under the umbrella of CEC.

[2]https://swayam.gov.in/publiccourse : 1. Cell Biology 2. Developmental Biology

Under Ministry of Human Resource Development (MHRD), higher education in India is governed by University Grant Commission[3] (UGC) established in the year 1956 with three objectives i.e. access, equality and quality is charged with coordination, determination and maintenance of standards of higher education in India. UGC is the national agency charged with the responsibility to take appropriate measures for promotion and coordination of university education and determination of maintenance of standards of teaching, examination and research in universities (University Grants Commission, New Delhi, 2002).

The Consortium for Educational Communication popularly known as CEC is one of the Inter University Centres set up by the UGC, India in 1993. It has been established with the goal of addressing the needs of higher education through the use of powerful medium of Television along with the appropriate use of emerging Information Communication Technology (ICT). Subsequently CEC emerged as a nodal agency to coordinate, guide & facilitate educational production at the National level. Today 21 Media Centres (EMRCs) are working towards achieving this goal under its umbrella. Department of Higher Education, Ministry of Human Resource Development (MHRD) in India is administering the National Mission on Education through Information and Communication Technology (NMEICT)[4] scheme to leverage the potential of ICT, in teaching and learning process for the benefit of all the learners in Higher Education Institutions (HEIs) at anytime and anywhere mode. The two major components of NMEICT Scheme are (a) content generation and (b) providing connectivity along with provision for access devices for institutions and learners (Ministry of Human Resource Development - MHRD, GOI, 2015). NMEICT plans to focus on appropriate pedagogy for e-learning, providing facility of performing experiments through virtual laboratories, on-line testing and certification, on-line availability of teachers to guide and mentor learners, utilization of available Education Satellite (EduSAT) and Direct to Home (DTH) platforms, training and empowerment of teachers

[3]UGC is an autonomous body which governs general education system in colleges and universities. UGC enforces its standards, advises the governments and coordinate between the centre and the state.

[4]Projects under NMEICT include: E-Content; Virtual Labs; Talk to a Teacher; National Digital Library; Vidwan: Expert Database and National Researcher's Network; e-Yantra (Robotics); E-Kalpa (eLearning programs on Design) etc. which can be accessed on http://www.sakshat.ac.in/

to effectively use the new method of teaching learning etc (MHRD, Department of Higher Education, 2016).

NMEICT funded flagship program for e-content generation and unique Learning Object Repositories (LORs) is a National Program on Technology Enabled Learning (NPTEL) which was initiated in 2011. It is a joint initiative of IITs[5] and IISc[6] which provides e-learning through online Web and Video based courses in engineering, science and humanities streams (MHRD, Deparment of Higher Education).

At present CEC already has electronic content in video form in 49 subjects with respect to Higher Education; total 20,000 Educational Video programmes are being produced by its Media Centres; and are adding 2000 video programmes and almost same number of e-Contents based on UGC model curriculum annually (Consortium for Educational Communication, 2017). Almost all of these educational resources are made in English, though lately a few have been transcribed in regional languages too. NPTEL has also customized and installed an open source Learning Management System (LMS) 'e-Pathshala Management System' to host these e-content online. More than 1,200 modules are developed and hosted on e-PG Pathshala website. The Educational programmes are telecast 24*7 on Vyas Higher Education Channel and for few hours on the national public broadcasting (DD1) channel and DD Bharti that pertains to health line, culture and for a few hours on education known as *GyanDarshan.*

Online Education Scenario in India

Higher education in recent years has undergone important paradigm shift, especially shift from the teacher centric to a learner centric system. Students continuously interact with information technology, so integrating technology in teaching simply makes it very easy for them to learn. Technology is providing educators effective ways to teach and reach different types of students.

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[5]The **Indian Institutes of Technology (IITs)** are autonomous public institutes of higher education, located in India. They are governed by the *Institutes of Technology Act, 1961* which has declared them as institutions of national importance and lays down their powers, duties, and framework for governance etc.[

[6]**Indian Institute of Science (IISc)** is a public university for research and higher education in science, engineering, design, and management. It is located in Bangalore city in India, and was established in the year 1909. It acquired the status of a Deemed University in 1958.

Moreover the internet has globalized the education sector, and institutions are all the time more competing for the best students, nationally and internationally (Damme, 10-11 September, 2001). Professors have now started teaching students, and are building up new pedagogical strategies. On the whole, "effectual teaching" is more than just the successful transference of knowledge and skill or application around a particular topic. New effective teaching style engages students in the learning process and helps them develop critical thinking skills. The greatest teachers now not only know their material, but they are also well-equipped with tools which help them in the process of expressing and effective teaching. They have at their disposal a range of instructional methods, strategies and approaches – a range that continually grows, just as their content knowledge develops.

There are many prevalent educational models which have revolutionized online education globally. There are many Learning Management Systems (LMS) developed globally like Massive Open Online Courses (MOOCs), Corporate Open Online Course (COOC), Small Private Open Course (SPOC); these cater to big/small group of people and offer them tailor made courses (Technopak – SimpliLearn, 2016). These course formats include video lectures, assessments, interactive labs, and quiz and discussion forums. Slowly and steadily we find 'Bricks' (classrooms) are being replaced by the 'Clicks' (click of mouse) in various forms of education.

The Study Context

CEC has recently launched (July, 2017) a new and exciting world of online-learning through SWAYAM program, which aims to help in realizing the dream of education to all. The online SWAYAM platform develops and delivers Massive Open Online Courses (MOOCs) for engineering, post-graduate, under graduate students, school and out of the school students apart from management students.

It is an initiative of Government of India which aims to achieve the three principles of Education Policy viz., access, equity and quality. It also strives to fulfill the present government's dream of 'Digital India', of which digital education is an important aspect. The courses hosted on SWAYAM are divided into 4 quadrants – (1) video lecture, (2) specially prepared reading material that can be downloaded/printed (3) self-assessment tests through tests and quizzes and

(4) an online discussion forum for clearing the doubts. Courses delivered through SWAYAM are available free of cost to the learners, however students wanting certifications will have to get themselves registered and certificate would be issued, on nominal fee payment,on successful completion of the course (CEC, New Delhi, 2015).

UGC has also made a provision of transfer of marks/grades and credits scored by the students'; in the online exam; to the academic record of the students. UGC has already issued the UGC (Credit Framework for online learning courses through SWAYAM) Regulation 2016 advising the Universities to identify courses where credits can be transferred on to the academic record of the students for courses done on SWAYAM (The Gazette of India, 2016).

Online Higher Education Initiative of CEC, SWAYAM – MOOCs and Global Competitiveness

Digital Infrastructure: In absence of appropriate and useful digital infrastructure at very high cost, the project has experienced difficulty in implementation. In addition, some areas in India have no power and internet, so it becomes very difficult to use educational technology. This creates a big gap between the digital have and have not's. Though the MOOCs courses run online are free but the intermediately available power supply in rural sector combined with low internet speed connections together with fewer computers available per 100 persons would be a dampener to this initiative.

Moreover MOOCs launched on SWAYAM platform utilizes just video lectures, downloadable reading material, self-assessment tests and quizzes and discussion forums as an interaction format for its courses. The audio-video programmes (video lectures) on SWAYAM include recorded lectures of subject expert who use either chalk & duster or power point presentations or smart board as a multi-media technology while delivering lectures. Whereas the learning modules launched by other global and Indian players are available in multiple formats like Smart Classes, Online Tutoring, Online Preparation for Exams, Simulation and Virtual Reality, STEM Learning, Augmented Reality and Robotics and Tablet Learning (Technopak – SimpliLearn, 2016). Further the global players in MOOCs have embedded screen-sharing technologies on their websites to help students get an insider's look at the instructor's creative process.

Since MOOC education is an asynchronous process, meaning that students and instructors are rarely at the same place at the same time, and prevents direct communication therefore such platforms help in creating online forums where students from all over the world can exchange ideas. This is another aspect on which SWAYAM needs to work. Though SWAYAM does have a group discussion feature but the researcher observed and found no option for one to one discussion amongst the students registered for the course. Also the students did not participate in the invited discussions during the course span as initiated by the course faculty.

Language Divide: In India online education has lead to creation of a 'Language Divide' as more than ninety percent of the Indian students do not comprehend, speak or write English. Whereas majority of projects run by CEC are in English language. Therefore the government needs to put in effort to make Digital education more inclusive for all by creating apps in Hindi and Indian languages which can tap the rural students.

Digital[7] Apps: In terms of teaching, the Indian tutors are more inclined towards utilization of 'chalk' and 'duster' mode of education; and on similar lines most of the courses which are offered on SWAYAM platform have utilized 'talks' together with chalk and duster or power point presentations or smart boards (for science subjects). Some of the emerging technologies that are used world over in online education include cloud computing, mobile learning, learning analytics, open content, 3D printing, virtual and remote laboratories, games and gamification, tablet computing and wearable technology etc. Educational programmes developed using the above technologies are helpful to students in terms of information retention, to get improved results and also it has been proved that students are able to master new information 5 times faster than traditional methods (Technopak – SimpliLearn, 2016). Based on the analyses presented so far it is clear the CEC needs to walk a long way in incorporating the above applications in its course module to be useful to the students. Further the educational platforms designed by CEC

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[7] As per the report of IAMAI-IMRB the overall Internet penetration in India is currently around 31 per cent and the number of Internet users in India is expected to reach 450-465 million by June 2017 (HT Media Ltd, 2017). As published in the latest edition of *Live Mint* the usage pattern of urban and rural population is downrightly different in India. Services such as e-mails, social networking and online shopping are prevalent in urban India, while entertainment in the form of video and audio content drives Internet consumption in the rural area of the country. Mobile internet is primarily responsible for this growth in rural part of the country.

for higher education need to be student friendly or it would defeat the purpose of being used as an alternate source of gaining knowledge.

Need for training teacher: it is very essential to integrate new educational technology while training the teachers on how it works. Here again the researcher observed that most of the online educational projects run by CEC had limited one to one communication platforms available for students interaction like textual comments. Though the MOOCs platform is designed for better communication between the learner and the teacher but here too the subject experts lack skill on using these applications.It was observed that the teachers and faculty are not comfortable to adopt information technology and products like computer-aided assessment, discussion boards, educational management system, and other web-based teaching materials. Products like curriculum management and LMS require a lot of administrative work, and hence teachers prefer sticking to their traditional teaching methods. It is now high time for teachers to learn on how to use latest new education technology so that they can simplify the way they do their job, are able to reach out to different types of students and this would also help to bring teachers close to students.

Management of education: At present higher education is managed in conventional mode, the universities in India have still not accepted the Curriculum based Credit System (CBCS) though there has been a mandate from UGC to follow the same all over the country. Bureaucrats are not sensitive and responsive to the changes in the environment of education. Whereas, almost all the universities globally have a combination of traditional mode of teaching along with the online education format. The best of the universities in UK and USA are delving into hybrid learning environments, which employs online and offline instruction and interaction with professors the same could be adopted in the context of India.

Conclusion

The analysis presented so far on contributions of CEC in higher education has scope to incorporate online and technology driven learning which cannot be replaced by the conventional model of higher education in India, still it can try to fill in the existing need-gaps. The online education system seems to facilitate learning and improves performance of learner by use of appropriate technological processes and resources. The online media has provided a dynamic environment by removing the barriers between learner and the educator.

Even though new initiative by MHRD for education seems to have many benefits, it also has a lot many hurdles to overcome. Policy making, planning, administration and implementation of higher education through online media demands revitalization of the subject and put it on the right track, at the same time. The prospects and development in the higher education sector in India needs a critical examination in a rapidly globalizing world. A focus on enforcing higher standards of transparency, quality, infrastructure, and curriculum are equally important to improve the quality of higher education. That includes transparency, accountability, good governance and education to all. A leading challenge before CEC is continuous up gradation of curriculum to keep in pace with rapid growth of science and technology; developing a meaningful and purposeful interface between the universities, National Research Laboratories, industries, government and society etc. It is being expected that CEC would definitely work towards upgradation of digital infrastructure; nullify the llanguage barrier; introduce appropriate and functional communication platforms; prepare and provide a rigorous training module for teacher involved in online education systems; and also help UGC in proper implementation of higher education policies. Information technology in higher education policy may not be a challenge though it may play a role in information and resource sharing.

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