From Director’s Desk

“Some of the brightest minds in the country can be found on the last benches of the classroom.”

- Dr. APJ Abdul Kalam.

Google and KPMG in a recent report have indicated that Indian Education Industry will grow to ‘$1.96 billion by 2021’. The report informs “two-fold increase in online searches for education”, “three-fold increase in searches from mobile devices” and “four-fold growth in education content consumption on YouTube in the last one year”. The growth is attributed to the increasing ‘smart phone penetration’ and ‘improving internet connectivity’ in smaller cities of India. These, incidentally, are the areas which are bereft of quality educational institutions in terms of infrastructure, faculty and educational material. Similar is the story in Pakistan, Bangladesh and Sri Lanka.

Globally online education is growing, making quality education available, at exorbitant costs benefitting rich and leaving behind poor and marginalised. We may very soon experience industry players converting education and knowledge in consumable products and marketing them online in the semi urban and rural areas of South Asian Countries. This will further increase disparity between the rich and the poor. To ensure social, cultural and economic rights to the poor and marginalised, equity and access to quality education is paramount.

Martin Bean, the Vice-Chancellor and President of RMIT, in his address at PCF8, informed that the YouTube, because of educational videos, has emerged as “the number one search engine in the world”. He stressed the need to integrate video in teaching and learning material for better understanding of learners especially in open and distance mode. Educational videos and multimedia enhance the teaching learning outcomes and bring them at par with the classroom teaching. Therefore, today when most of the conventional and ODL institutions are actively engaged in developing digital course material for online, flexible and open learning, it is imperative to think in terms of embedding videos and multimedia components. If the data provided by Google and KPMG, above, is any indicator, the dream of ‘quality education for all’ is not far away provided we are able to use a multimedia approach in creation and packaging of knowledge.

CEMCA has been promoting creation and utilization of Open Educational Resources (OER) by the partner institutions in commonwealth Asia. We have also been stressing and supporting multimedia approach to creation of OERs and launch of OER Repositories. Two such repositories were launched in India, during the last two months, at NSOU, Kolkata and OSOU, Sambalpur. We are also looking for other partner institutions in Commonwealth Asia for similar initiatives. ODL institutions in Commonwealth Asia are seriously working to create educational resources but time and resources available are making it hard for them to match the demand. All of them are working individually at times resulting in duplication of effort. It may serve a purpose to work collectively and pool the resources. CEMCA, therefore, has proposed to create a Consortium, of Open and Distance Learning Institutions, for easy sharing of quality educational resources and courses. This will multiply our efforts to reach a vast majority of students at an affordable cost, and find the “brightest minds in the country” for sustainable development.

With best wishes

Dr. Shahid Rasool
Leveraging ICT for access to quality higher education in India

Dr. (Mrs.) Pankaj Mittal

Preamble
The Indian higher education has grown exponentially over the last several years with students enrolment touching 32 million. Still the GER of India is about 24.6%, which is much lower as compared to GER ranging from 60-70% in the developed countries. However, with increase in the school pass-outs due to many positive policy initiatives taken by the Government of India, the GER would soon be touching 30%. This massification of higher education brings along with it certain issues, which we will refer to as the pentagon puzzle of higher education, bringing forth the issues of equity, relevance, quality, management and financing. The issue is how to leverage ICT in solving this pentagon puzzle.

Launch of NMEICT by GOI
The GOI launched the ambitious National Mission on ICT (NMEICT) in 2009, for employing technology to provide connectivity, along with provision for multiple access devices, to institutions and learners; and for content generation. Under the Mission, more than 810 online courses in various disciplines of engineering and science have been developed. Over 126 Virtual Labs in nine Engineering & Science disciplines, comprising more than 770 experiments are currently ready for use and available. 1500 Spoken Tutorials and a large number of courses for design have also been created which can be accessed on the Sakshat portal at www.sakshat.ac.in. Under the NMEICT scheme, a total of 403 Universities have been connected through 1 gbps optical fiber and 22026 Colleges so far have been connected with 10 mbps bandwidth. Using this connectivity, access is being provided to more than 6,000 e-journals and approximately 31 lakh e-books to degree colleges except professional colleges imparting education in engineering, management, medical, nursing, pharmacy and dentistry, under the N-LIST programme.

e-PG Pathshala programme of UGC
Under the NMEICT project, the UGC was entrusted with the responsibility of developing of e-content in 77 subjects at postgraduate level to create high quality, curriculum-based, interactive content in different subjects across disciplines of social sciences, arts, fine arts & humanities, natural & mathematical sciences and linguistics and languages. The volume of work involved was enormous. Each subject involved developing e-content for about 16 papers. Each paper comprised of 35-40 modules to
cover 40 hours of teaching duration. Each module was to be developed in four quadrants consisting of textual and audio-visual components. First quadrant defines the course structure along with text comprising of basic description of a module, prerequisites (in terms of knowledge background of a user before taking-up a module), detailed textual content on the topic/module with examples. The second quadrant comprises of multimedia enrichment of content that may include video clips of about 30 minutes duration, animations, simulations, virtual labs, etc. The third quadrant provides links for external resources available on the Web as well as supporting material like Points to Ponder, Glossary, FAQs, other websites, blogs, discussion forum, etc. Fourth quadrant includes the self assessment material and evaluation questions in different formats like multiple choice questions, true & false statements, etc.

This voluminous project involved about 77 PIs or subject matter experts from more than 44 HEIs all over the country, including Central Universities, State Universities and Institutions of National Importance each of whom were assisted by a team comprising of 400-500 persons including 16 Paper Coordinators, about 300-400 Content Writers, about 10-15 Content Reviewers, 2-3 language Editors, a multimedia team of about 40 members consisting of graphic designers, video editors, camera persons, animators, Instructional designers etc. Hence, a total of about 3000-4000 experts were involved in producing this quality e-content.

The e-content is hosted on the epgp.inflibnet.ac.in website of INFLIBNET, an Inter University Center of UGC with a e-PMS platform which provides all stakeholders to interact and display current status of development for each subject. The system provides for the profile creation of each team member; management of paper / syllabus creation and display assignment of each team member, updation on work progress made for each module; report generation and other important documents. The students and teachers can use this e-content as an Open Educational Resource (OER) or as resource material in a Flipped Classroom model where, in contrast to the conventional classroom teaching, the students watch the video lecture/study material at home and classroom is used for discussions and critical thinking including discussion/problem solving and assignments with the help of teachers and peers. As on date 12,800 e-texts and 10,909 videos in 74 subjects have been uploaded on the website. It is heartening to know that the website is very popular amongst students and 27.98 lakh visitors from India and abroad have visited the website till date. The videos are also available on Youtube and are being viewed in large numbers by students, teachers, researchers and other stakeholders while providing constant feedback on the quality.

**Journey to MOOCs**

In 2016, the MHRD felt that the e-content developed can be repurposed into full fledged Massive Open Online Courses (MOOCs) courses and requested UGC to devise mechanism for converting e-content into the MOOCs Courses to provide seamless integration of conventional education with MOOCs through SWAY AM platform (Study Web of Active Learning by Young and Aspiring Minds an indigenous IT platform for hosting these courses. The courses thus developed will benefit lifelong learners, students, teachers, homemakers and researchers to use multimedia on anytime, anywhere basis for acquiring knowledge and skills. MHRD identified eight National Coordinators for developing MOOCs from School to PhD level on the
SWAYAM platform - NCERT for school education from 9th to 12th; NIOS for out of school children from 9th to 12th; Consortium for Educational Communication (CEC), an IUC of UGC, for Non-technology UG programmes; UGC for Non-technology PG programmes; IGNOU for Diploma and Certificate programmes; NPTEL for Technical/Engineering UG & PG degree programmes; IIM for management programmes and NITTR, Chennai for Teacher Training programmes.

The UGC trained the PIs for repurposing MOOCs wherein the PIs had to develop introductory modules defining the course design, pre-qualifications for taking the course, introductory video, assessment procedure, credits to be awarded, starting date/ending date, and expected learning outcomes of the course. Besides this, self-assessment modules, quizzes and tests, weekly assessments, and discussion forums had to be incorporated.

Regulations on MOOCs

After the development of MOOCs course, the next issue was to give credibility to these courses in the formal system of higher education. A strong need was felt to allow credit transfer based on successful completion of these courses. For this, UGC (Credit Framework for Online Learning Courses through SWAYAM) Regulation, 2016 were issued on 19th July, 2016. The regulations clearly defined the roles of the parent institution, i.e. institution opting for MOOCs courses on SWAYAM and the Host Institution from which the PI offered the MOOCs course.

The regulations stipulated that online learning courses will be made available on the SWAYAM platform and be notified every year on 1st June and 1st November. A student studying at a recognized institute anywhere in the country and having cleared the online course through SWAYAM, would be awarded credits to be transferred from the Host Institute to the Parent Institute where the student is studying. Up to 20% of the total courses being offered in a particular program could be opted through MOOCs. The host institution and the PI would evaluate the students based on predefined norms and the parent Institution will incorporate the marks/grade obtained by the student, in the final marks sheet. In subjects where lab experiments or practicals are involved, the parent institution will evaluate the student and incorporate these marks/grade in the overall marks/grade. A certificate regarding successful completion of the MOOCs course would be issued through the Host Institution and sent to the Parent Institution.

Launching of MOOCs

UGC has developed 72 MOOC non-technology courses for PG level in first phase which are being hosted on the SWAYAM platform on a pilot basis. The universities have been apprised of the MOOCs Courses uploaded on SWAYAM with a request to initiate action for introduction of MOOCs courses after approval of their academic/statutory bodies. Most of the universities have welcomed the idea and are in the process of identifying courses and getting approval from their statutory bodies which is a very encouraging sign. A soft launch of the SWAYAM platform was done on November 16, 2016. Currently, there are 350 courses running on the platform.
DTH: SWAYAM-PRABHA

“SWAYAM Prabha” is another initiative of MHRD for disseminating the audio-visual content developed as part of e-Content and MOOCS through 32 Direct-To-Home (DTH) educational TV channels. These channels are broadcasting educational content in diverse disciplines throughout the day, allowing the students to choose the time of his/her convenience for watching these videos. Content telecast covers all levels of education from school education till postgraduate education.

Outcome of the Technology Enabled Learning Initiatives

As mentioned in the beginning, the technology enabled learning will help us to solve the pentagon puzzle of higher education. The issues of relevance and quality would be addressed through quality e-content made available to the students in the form of ePGPathshala (OER & Flipped Classroom model). The DTH videos being telecast through SWAYAMPRABHA would address the issue of equity by reaching to students and learners in remotest corners of the country. Technology enabled learning initiatives would go a long way in cutting down costs of building infrastructure in the form of brick and mortar class rooms, thereby addressing the problem of financing of higher education. The online content will also address the problem of management of faculty shortage in universities and colleges, by providing students with the best quality faculty from all over the country.

Summing up, OER, MOOCs and DTH would provide students and teachers with different approaches to learning and innovation in teaching, and optimally using the resources and time on hand. The project would also help the students and teachers to update their knowledge and skills especially for those located in rural/backward/remote areas and would successfully bridge the digital divide and help the nation move towards an information-rich society.

References

• http://nlist.inflibnet.ac.in/about.php (accessed on 23/05/17)
• http://epgp.inflibnet.ac.in/
• http://epgp.inflibnet.ac.in/pdf/Guidelines_Final.pdf
• http://www.ugc.ac.in/pdfnews/0272836_moocs.pdf

Acknowledgement:

Dr. Diksha Rajput, Publication Officer, University Grants Commission (UGC) Bahadur Shah Zafar Marg, New Delhi for the academic and technical support to complete this Guest Column….. and can be reached at diksharajput[at]gmail[dot]com

Dr. (Mrs.) Mittal is working as Additional Secretary in University Grants Commission (UGC) Bahadur Shah Zafar Marg, New Delhi, INDIA. She also worked as Vice Chancellor of BPS Women University, Haryana, INDIA. She can be reached atpankajugc[at]gmail[dot]com
New age ODL pedagogies for Digital India: The SMU Way

Dr. Anuradha Parasar and Dr. Manoj Kumar Nagasampige

‘Digital India’ has been envisioned as an ambitious umbrella program to transform India into a digitally empowered society and knowledge economy. Today, India has more than 400 million mobile internet users. Children and youth in India have become increasingly technology-driven, revealing considerable potential and readiness to imbibe and learn using digital media. Therefore, there is a need to revamp current educational approaches and implement innovative technology enabled pedagogies, which enable digital learning. Sikkim Manipal University uses the innovative and leading edge educational approaches, by actively designing, developing and implementing industry oriented courses.

Sikkim Manipal University (SMU) is a unique Public-Private Partnership between the Government of Sikkim and Manipal Education and Medical Group. The University was established in 1995 by an act of the state legislative and is recognized by University Grants Commission (UGC) under section-2 (f) of the UGC act 1956. SMU commenced programs in distance education in 2001 by setting up the Directorate of Distance Education (DDE). Through SMU-DDE, it offers distance education programs in various disciplines to cater the educational needs of working professionals.

Technology Enabled Learning:

SMU leveraged the key capability of digital India-mobile internet penetration and introduced innovative technology enabled Open and Distance Learning (ODL) pedagogies to suit the learning styles and preferences of present day learners. SMU provides learning resources via EduNxt-Learning Management System (LMS) as supplementary material to distance learners of the digital India.

EduNxt is the next generation learning
system that takes advantage of modern teaching techniques to create a virtual classroom, where students come together to learn from distinguished faculty and from each other. The EduNxt platform is an easy to use delivery system. It creates a collaborative and interactive environment for learning and includes small group mentoring, virtual classrooms, simulation, self-study content, recorded presentations and shared browsing. EduNxt functions on the principle of 3 As + 4 Cs. The 3 As of Affordability, Accessibility and Appropriateness are the guidelines to scaling up EduNxt across distributed learning. The 4 Cs of Content, Collaboration, Communication and Computing are the basis of developing EduNxt into a means of disseminating education among the not-so-privileged or the infrastructurally-challenged learners.

**M-Learning:**

SMU’s EduNxt Mobile Learning App provides learning opportunities on the go. The App helps learners:

- get a visual overview of their progress in all subjects
- easy access to instructor led videos that truly enable learning anytime and anywhere
- recap the lessons learnt
- for last minute revisions, summary cards come in handy
- are able to assess their knowledge of the lessons learnt through quizzes
- make learning fun by challenging their peers to these quizzes, ensuring better learning of concepts for all.

SMU is providing education to the people of northeast and other parts of the country, continuously empowering people and transforming lives. All efforts of SMU are aimed to provide the students with the best-in-class academic delivery and highest level of convenience and flexibility keeping in mind the requirements of a working professional. SMU believes that technology driven new age ODL pedagogies can transform India by leveraging the Digital India Initiative and help in achieving United Nation’s Sustainable Development Goal (SDG) — “Ensure inclusive and equitable quality education and promote life-long learning opportunities for all”.

---

Dr. (Mrs.) Parasar is the Deputy Director at Directorate of Distance Education, Sikkim Manipal University, Gangtok and she can be reached at anuradha [dot] parasar[at]smude [dot]edu[dot]in

Dr. Nagasampige is a Professor at Directorate of Distance Education, Sikkim Manipal University, Gangtok and he can be reached at manojkumar[dot]nagasampige[at]smudde[dot]edu[dot]in
Regional Round Up

International Conference on Quality and Access through ICT in Higher Education

Under the aegis of the E-QUAL project, British Council in partnership with All India Council for Technical Education (AICTE) organised an international conference on Quality and Access through ICT in Higher Education on 11 May, 2017 at New Delhi. E-QUAL is a European Union funded project being implemented by four university partners from India and two from EU with British Council in the lead.

The objective of the conference was to explore the potential of emerging learning technologies and delivery systems; foster integrated modes of thinking; ponder over ways to improve quality and access through ICT in Higher Education; and to deliberate upon policies needed to integrate non-traditional teaching in the University system.

The inaugural session was graced by Alan Gemmell, Director, British Council, Prof. Anil Sahasrabuddhe, Chairman, AICTE, Mr. R. Subhramanyam, Additional Secretary (TE), MHRD and Johann Hesse, Counsellor and Head of Cooperation, European Commission. The speakers at the inaugural emphasised upon the use of technology in education and its importance to increase access and quality. ICT is a means to spread equal opportunity and democratising education.

The keynote session was given by Professor Deepak Pathak from IIT Mumbai. Professor Deepak spoke about the policy on MOOCs and its operational issues. He highlighted five focus areas for online teaching and learning:

1. Learner Centric Approach
2. Co-option of Stakeholders
3. Promote the use of LMS/CMS
4. Skilling
5. Research

All the major stakeholders were a part of the day-long conference and deliberated on issues ranging from innovative teaching and learning pedagogies, online and OER policy for higher education and governance and international relations in higher education. The speakers at the conference were from MHRD, AICTE, UGC, CEMCA, IGNOU, European Commission, King’s College London, University of Bologna, IIT Mumbai, University of Hyderabad, Jadavpur University.

The session on innovative teaching and learning pedagogies focussed on new modes of teaching, learning, course delivery, and assessments in higher education. The focus was on learning about practices related to institutional change, quality assurance, international collaboration and the latest trends in online, open and flexible learning with an aim to discover new strategies to improve student learning outcomes.

Speakers from UK, EU and India shared their experience on online and OER policy for higher education. It was felt across the board that open IPR policy is the need of the hour. The deliberations also touched upon the issue of governance in higher education and the requirement to remove barriers to make learning accessible, abundant and customised by better and flexible governance and through international collaboration.
National Seminar cum workshop on Development and Implementation of OERs in Foreign Languages in Indian Context

The Centre for Study of Foreign Languages (CSFL), University of Hyderabad has conducted Two-Day National Seminar cum workshop on “Development and Implementation of OERs in foreign languages in Indian Context” during 30-31 March, 2017. The aim of the workshop was to evaluate existing Open Educational Resources (OERs) and Online Courses (OCs) so as to design these courses for the Indian learners. This is very much required because Govt. of India under Digital India program is actively promoting e-education through SWAYAM program. The challenge for developing OERs and OCs lies in the fact that the Learners in India are multilingual and multicultural. Such seminar is first of its kind in India.

The workshop was attended by the scholars in foreign languages from different parts of the country. Welcoming the participants, Prof. J. Prabhakar Rao, Director, e-Learning Centre and Head Centre for Study of foreign languages, highlighted the paradigm shift from traditional mode of pedagogy to e-pedagogy. Prof. Rajiv Saxena, Chairperson, CSPILAS from Jawaharlal Nehru University, New Delhi in his Keynote address on “A paradigm shift in pedagogy: education through ICT” mentioned about developing OERs in foreign languages especially in Spanish under e-pathsala program. During 2 Day workshop, scholars in different foreign languages such as German, French, Spanish, Chinese, Japanese and Russian presented papers on evaluating existing OERs in different foreign languages, OERs and MOOCs etc. Two special lectures were also organized on licensing and copyright and OERs in 21st century by Mr. Kumar Jaganmaya Jagjeet, Project Technologist, India-EU Project and Mr. K. Laxmi Sekhar, Goethe Centrum, Hyderabad, respectively.

After detailed and long deliberations, the participants of the workshop have come up with a common format for developing OERs and OCs for beginners in foreign languages. A 20 hr module in the above mentioned foreign languages was also designed. The workshop has finally made the following recommendations:

1. To develop a common format of modules for developing OERs and OCs in foreign languages at different levels.
2. To have a collaborative approach for designing OERs for foreign languages in Indian context.
3. To formulate Guidelines for developing MOOCs in foreign languages and submit the same to MHRD, Govt. of India.

The two-day workshop was concluded by Mr. Ranjeeva Ranjan, CSFL, University of Hyderabad.

OERs & OCs: Preparation and Development

The teachers training workshop on OERs & OCs: Preparation and Development was conducted on 17th and 18th March by e-Learning Centre, UoH in collaboration with India-EU Project E-QUAL and UPE-II, University of Hyderabad. The e-Learning centre, which was established under OEP-2016, UoH is working vigorously on OERs and MOOCs. It is also regularly organizing workshops on Capacity Building. Hence, the aim of the workshop is to improve SME’s understanding and delivery of technology based instruction methods for classrooms, and on use of specific technology products to support collaborative and interactive learning. This training will be complemented by sessions on assessment. The workshop was attended by 30 teachers from University of Hyderabad.

The inauguration session of the workshop was inaugurated by Prof. B. P. Sanjay, Pro-Vice Chancellor-I, University of Hyderabad. He mentioned in his speech that the University is planning to implement enhanced technology in pedagogy and this workshop will definitely contribute towards this purpose.
Prof. J. Prabhakar Rao, faculty coordinator in his welcome speech highlighted the significance of OERs and their use in pedagogy. He also stressed that “All teachers now became students and learn how to design online courses.

Prof. Stylianos Hatzipanagos from KCL, started the sessions, with the definition of OER, its usage and awareness. He discussed on the challenges and opportunities involved in developing OERs. He demonstrated some of the case studies which includes the challenging phases of OERs.

Ms. Maria Fragkaki talked about designing OERs according to MOOCs. She mentioned that there is not a huge change in the way teaching is done today, but there are some innovations which are proposed that can change the way one learns. Among the wide-ranging apps, sites, learning management systems, flashcard creators, and content archives bring this change. There are better ways to motivate learner with the use of internet technology.

E-QUAL team of education experts investigated the vast array of online learning tools to create this list best, most innovative online tools that we think will change the education space.

Dr. Pradeep Koul, Sr. Consultant MHRD delivered a lecture on MOOCs policy of GoI on development of OERs. He also explained the process and way of funding of the courses for MOOCs from MHRD, Govt. of India.

The summing up session was taken by Prof. Stylianos Hatzipanagos and Prof. Atul Negito discuss the real-time challenges on implementation of OERs and blended learning.

The Day two started with some live and hand-on sessions by Prof. Stylianos Hatzipanagos. During this session he also explained about innovative teaching and learning tools used for MOOCs and e-learning. Mr. Kumar Jagannaya Jagajeet, Project Technologist, Project E-QUAL, University of Hyderabad, spoke on different licenses for content was the agenda of the session where as use of open license and creative commons was the major part of the session.

The post lunch session was the demonstration of different aspects of “E-QUAL Project” by Ms. Parul Gupta, British Council. She demonstrated OERs on project website and discussed the challenges involved on developing the OERs in E-QUAL Project. The event closed with certificate distribution by Prof. Stylianos Hatzipanagos and a warm thanking session by Prof. R. Siva Prasad.
Capacity Enhancement Programme for ODL Teachers on Creation of OER for Blended Learning

Commonwealth Educational Media Centre for Asia (CEMCA) and Bangladesh Open University (BOU) under their joint OER initiatives convened a three-day “Capacity Enhancement Programme (CEP) on Open Education Resources for BOU academics” at BOU eLearning Center, Gazipur Bangladesh. This activity is a part of implementation of CEMCA-BOU Project entitled “OER Policy and Implementation of Blended Approach for teaching-learning at BOU”. Mr. Abu Naser Md. Tofail Hossain, Ms. Kazi Sharmin Pamela, and Ms. Romana Kader faculties of the BOU facilitated the training. Thirty ODL teachers of BOU participated in the hands on training on searching and creating OER for blended learning.

Dr. Manas Ranjan Panigrahi of CEMCA facilitated the hands on training along with Master Trainers of BOU. In the inaugural session, Dr. Panigrahi expressed deep concerns related to OER practice for better learning at BOU. He said that the university authority should encourage the faculty members to develop OER culture in the university and scale up further to academic counsellors, tutors at regional centers and study centres of the university. Prof. Sufia Begum, Chair of the Session, cited that on one hand everything is going online and on the other hand, opponents of distance education have been disregarding the degrees earned through eLearning. Md. Mizanoo Rahman, the Team Leader of the CEMCA-BOU OER Project stated the objectives of the CEP for academics and presented the progress of the project.

In the inaugural address Sabina Yeasmin, BOU mentioned that the “Pedagogical transformation through open Educational resources at Bangladesh Open University is not an option, it is imperative to be incorporated in the BOU system. Open Educational Resources are valuable for BOU and students in terms of energizing teaching and learning at low cost and laying the groundwork for Higher Education (HE) programmes that meets employers’ needs. The workshop focused on the Concept of OER, OER policy statements of the university, open licenses including creative commons, reuse and remix of OER and contribution and strengthens of BOU OER repository. Three-day workshop comprised various hands on practice sessions including the pre-workshop and post-workshop test.

Open Educational Resource Policy and Implementation Strategies for PSSOU Chhattisgarh

Pandit Sundarlal Sharma Open University Chhattisgarh, Bilaspur in collaboration with CEMCA, New Delhi organised a two days’ workshop on Understanding of Open Educational Resource policies and implementation strategies from April 12-13, 2017. A total of 34 participants including Vice-Chancellor, Registrar, Finance Officer, Exam controller, 12 Faculties, 1 Computer Programmer, 15 Program coordinators and 2 Regional Coordinators of Pandit Sundarlal Sharma Open University Chhattisgarh, Bilaspur, participated in this workshop.

While inaugurating the workshop Prof. B. G. Singh, Vice Chancellor, Pandit Sundarlal Sharma Open University Chhattisgarh, emphasized the need for improving the quality of higher education in Distance Education. He appreciated the role of
Commonwealth Educational Media Centre for Asia (CEMCA) and Central University of Himachal Pradesh (CUHP) organised a workshop for teachers on eContent Development using OER from 19th to 21st April, 2017, at CUHP Dharmshala, Himachal Pradesh. The workshop started with an introduction and the participants engaged in a 3-day hands on training to develop and manage eContents to deliver content digitally to their learners. The purpose of this workshop was to provide hands-on training to the faculty members of the University in order to expedite the process of e-content generation using Moodle platform as a part of the University’s OER policy. A total of 36 participants actively participated in the workshop where 25 were university teachers from 10 departments and 11 were from IT support group. With the help of this workshop 25 teachers will develop 25 courses of 10 PG programmes and will offer them through online platforms in next academic semester i.e. July – December 2017. Dr. Manas Ranjan Panigrahi, Program Officer Education, CEMCA, New Delhi and Dr. Indira Koneru, OER content development expert based in Hyderabad facilitated the three-day training programme. The workshop was inaugurated by the honourable Vice-Chancellor of the University, Professor Kuldeep Chand Agnihotri. During his inaugural address, he praised CEMCA for extending support for establishing OER Cell at the University and also appreciated CEMCA for this new initiative on OER implementation at University. He also expressed hope that the University may establish an OER Centre upgrading OER Cell in the coming future. Dr. Indira Koneru demonstrated the features of Moodle as a Learning Management System.
Launching of NSOU OER Repository and Innovative Course on Inclusive Education

Netaji Subhas Open University (NSOU), Kolkata launched the NSOU OER Repository and An Innovative Course on Inclusive Education in “National Convention on Emanating Issues & Priorities in Teacher Education”, held at NSOU Kolkata on 12th May, 2017. Around 60 Principals, Departmental Heads, Senior faculty members participated. The attempt on behalf of SoE, NSOU was taken for quality enhancement of the system so that the in-house faculties as well as the other stakeholders can accrue benefit from it.

In this occasion the formal launch of NSOU OERRepository and An innovative Course on Inclusive Education performed by Prof. Subha Sankar Sarkar, Hon’ble Vice-Chancellor of Netaji Subhas Open University and Dr. Shahid Rasool, Director, Commonwealth Educational Media Centre for Asia (CEMCA), New Delhi in the presence of Prof. Nageshwar Rao, Hon’ble Vice Chancellor, Uttarakhand Open University, Haldwani, Uttarakhand; Prof. Mita Banerjee, Hon’ble Vice Chancellor, West Bengal University of Teachers’ Training, Education, Planning and Administration, Kolkata, Prof. A. M. Moorthy, Hon’ble Vice Chancellor, Tamil Nadu Physical Education Sports University & chairman of NCTE Curriculum Committee; Prof. Srikanta Mahapatra, Hon’ble Vice Chancellor, Odisha State Open University, Sambalpur, Odisha and Swami Tattwasaranandaji Maharaj, Principal, Ramakrishna Mission Sikshan Mandir, Belur Math. This event marks the effective association of NSOU and CEMCA in the spotlight. The aim of the launch is to have an increased attention towards the resulting of CEMCA-NSOU projects entitled “OER Initiatives for ICT enabled Programme of Netaji Subhas Open University” and “An innovative
course on Inclusive Education through blended learning approach” in support of Commonwealth Educational Media Centre of Asia (CEMCA). On this session it was reflected that the launch will be attract as many people from learned society as possible.

- After the formal launch of NSOU-OER repository basic actions and features was elaborated by the Project Co-ordinators Ms. Barnali Roy Choudhury and Dr. Anirban Ghosh. NSOU-OER repository is facilitating its service beyond the institution. This repository is available on the web at <nsouoer.krc.net.in>.
- An innovative Course on Inclusive Education (SoE-NSOU-CEMCA Project) for different stakeholders to offer in blended mode was also announced formally on this occasion. Dr. Sumanta Chattaraj, Project Director added that at this juncture, it is heartening that CEMCA and SoE, NSOU have come together to offer an impactful certificate course programme “On capacity building and professional development of teachers and teacher educators for successful implementation of inclusiveness”. The Course will be offered through LMS (Learning Management System) and will follow a multimedia approach with SLM, PPT and Audio – Visual materials.

eContent Development for Mobile Learning

CEMCA-NSOU organised a three-day Capacity Building Workshop on e-content development as a prelude to the project titled “Vocational Education & Training offering through Mobile Learning: An Innovative ODL Approach” on 18-20 May 2017 at Netaji Subhas Open University (NSOU), Kolkata. The objective of the present project is to offer two innovative courses “Diploma in Pre-primary Teachers’ Education Montessori and Tailoring & Dress Designing” using Web and Mobile App. For this particular project the School has to develop e-content of the course materials (non-print version/digital version) as well as the A/V lectures compatible to Mobile App.

The subject experts of different disciplines were invited to attend the three day workshop who will be involved in the development of e-content. Thirty participants (14 Female and 16 Male) attended the programme.

Dr. Anirban Ghosh, Project Coordinator and Associate Professor, NSOU in his welcome address, described the ODL as open and digital learning instead of open and distance learning. Dr. Manas R. Panigrahi, Programme Officer, CEMCA introduced the theme and highlighted the objectives of the present project. The capacity building workshop was inaugurated by Dr. P. K. Das Member Secretary, West Bengal State Council of Higher Education, Govt. of West Bengal and former Managing Director of WEBEL.

Dr. Das in his inaugural address highlighted the merits and limitations of on-line learning and different open source software. Mr. Anirban Guha, Former Dy. Director of CDAC, Kolkata and former Sr. Scientist of BARC stressed upon to use the ICT extensively for the benefit of our society. Dr. Nisha Singh, Dy. Director, IGNOU acted as the Resource Person for COL-CEMCA highlighted in the inaugural session the expected outcome of the three day workshop. Professor Subha Sankar Sarkar, Vice-Chancellor, NSOU in his presidential address discussed about the University’s activities for ICT enabled courses. Professor Sarkar also conveyed his sincere thanks to CEMCA for their whole hearted support for various projects.

The three-day workshop was divided in various sessions like; OER: Introduction; Searching for OER; Instructional Design: AIDDE; e-content scripting; Concept Mapping using FreeMind; Multimedia components: Audio-Audacity; Wikieducator: Developing content collaboratively; eXe- E-content Developing Tool; Online Assessment: Hot Potatoes. All the sessions involved activity/hands-on training in which the participants did their work on their own with the help of the resource persons. At the end, each group presented their e-content developed by them with the help of software.
Science for Women’s Health & Nutrition: 2016-2017

In the year 2016, CEMCA carried out the fifth phase of the project “Science for Women’s Health and Nutrition” catalysed and supported by the National Council for Science & Technology Communication (NCSTC), Department of Science & Technology, in fourteen Community Radio Stations across India. The project aims to reach out to the women of the marginalized sections of the society (in poorly literate as well as literate challenged sections), both in the urban and rural sectors across the country, to increase their awareness and knowledge about health issues and their locally possible solutions through the means of community radio. Through participatory programmes specially designed with specific issues in focus and using the community in participatory forms of radio-programming, this project tries to study how best women can be encouraged to take benefits of science and scientific knowledge in daily life.

CEMCA, being the nodal agency, with its expertise in research, community participation and capacity building has played an extensive role regarding the implementation and monitoring the project. The project has been designed and implemented in three stages namely, Baseline Study, Capacity Building and Content Creation. CEMCA appointed experts for administering the three crucial components and provided support to the respective CR stations for strengthening the operations of this ambitious endeavour.

CEMCA experts, Ms. Shirley Deepak, Dr. Rajendra Mishra and Dr. Sushmita Malaviya, carried out the baseline surveys in order to gauge the problems and needs of women located in the listening zone of fourteen CR stations. On completion of this, CEMCA embarked on the capacity building activity of community women with a view to facilitating them in programme production on the identified topics which emerged as a sequel to the analysis of baseline survey. A total of 140 programmes were produced during the entire project under the guidance of 20 capacity building and content creation experts and about 140 other experts who were part of the Advisory Committee for the project.

The reports for the fourteen CR stations have been prepared and printed along with a consolidated report with a focused analysis of priority areas where the CR stations need to work.

Launch of Repair Guru eContent

eContent for training people on Mobile Handset Repairing was launched on May 20, 2017 by Focal Skills in the august presence of Dr. Shahid Rasool, Director, CEMCA and Major General Mr. P. N. Monga, Regional Head, Telecom Sector Skill Council. The content was launched as a mobile application branded as “Repair Guru – Focal Skills”.

Repair Guru is also a chain of Electronic Gadget repair and servicing, created by Focal Skills with its operations in Punjab. Mr. Parveen Bansal, CEO, Focal Skill Development Pvt. Ltd. has plans to spread operations in north India in the coming year. Commonwealth Educational Media Centre for Asia (CEMCA) and Telecom Sector Skill Council have supported this initiative which is directed towards capacity building of people engaged in Mobile Repair and Servicing sector.

Repair Guru App is now available on Google play store, for anybody who wants to benefit from the content. Dr. Rasool, congratulated Focal Skills for having brought this innovative model of becoming self-sustainable by closely tying skilling with entrepreneurship.

The event was attended by about 100 mobile handset repair technicians and entrepreneurs. There was presentation by Mr. Jeta who has developed the mobile app, explaining various features of the app. Maj. Gen. P. N. Monga was pleased to announce that this content will be made available to all TSSC
affiliated training partners through the TSSC portal. During the launch event, three best spokes of Focal Skills were awarded mementoes recognizing their good work. The function was followed by lunch. In the afternoon Dr. Rasool, Maj Gen Monga and Ms. Mishra visited the Repair Guru hub and about 8 of its spokes in the villages surrounding Derabassi and created awareness not only about Repair Guru but also related to Open Schooling and Recognition of Prior Learning. This intervention will be followed up by 5 entrepreneurship development workshops aimed at reaching 250 youth and making more people interested in self-employment. Focal Skills is going to set up a helpline aimed at hand holding youth, especially women, for setting up their own business.

Community Radio Video Challenge 2017

Film Screening and Award Ceremony was held in India International Centre, New Delhi for the 4th edition of Community Radio Video Challenge (CRVC). Commonwealth Educational Media Centre for Asia had announced the fourth edition of CRVC for all students pursuing UG/PG/Diploma in media. The theme for CRVC 2017 was “Community Radio for Sustainable Development” with an objective of engaging Indian youth with community radio (CR), creating awareness, and fostering an understanding of CR’s importance for the self-expression, learning and development of local communities.

CEMCA received 50 entries from all over India in various regional languages right from Kashmiri to Malayalam. A panel was constituted internally to scrutinize the films and check for eligibility of the films. Of the 50 entries, 30 short films fulfilled all the required criteria of acceptance which were presented to a panel of distinguished jury who further evaluated them on the following four parameters: Overall impact (persuasive, informational, educational), Originality and creativity (concepts, ideas, format), Relevance and clarity of message & Technical proficiency and quality. The jury met on May 8, 2017 in India Habitat Centre, Lodhi Road, New Delhi who watched the films collectively and meticulously one by one, and scored each film independently. The scores were consolidated and averaged.

The jury was chaired by Dr. Ashok Ogra and had Dr. R. Sreedher as Co-Chairman. The other members on the panel were Ms. Neeti Sarkar, Director MIB, Ms. Ruby Kapoor, Theatre Artist, Mr. Rohit Sachdeva, Radio Jockey, Mr. Rakesh Khar, GM, TV 18 and Ms. Novel Lavasa, Artist & Photographer. Mr. R. Thyagarajan was Member Secretary of the Jury.

On May 17, 2017 the films were screened to all the participants who travelled to Delhi. Cash prizes were given to winners from all over the country. Dr. Rasool, Director CEMCA, welcomed all participants and guests informing them the three fold objective of the competition – one to create awareness about CR among the youth, two to make youth aware of UN-SDGs and the third is to encourage the art of film making among the media students. Prof. Ashok Ogra, Chairman of the Jury informed the gathering about the importance and history of CRVC. The Guest of honour for the occasion Sri Aashish Joshi, CEO Lok Sabha TV talked about his personal involvement in CR Awareness workshops and offered to screen all the award winning films in Lok Sabha TV. The Chief Guest for the occasion Dr. Suresh, DG, IIMC spoke passionately about the need for Community Journalism and the power of Community Radios. He informed the gathering that he has now mandated a chapter on Community Radio in all the curriculum of Mass Media and Journalism across the country so that awareness about this tool of social development increases. The vote of thanks was proposed by Mr. Thyagarajan, Head Admin & Finance, CEMCA.
The Information and Communication Technology (ICT) has impacted all walks of human life in the modern era. The policy makers, practitioners and academic communities are trying to harness ICT for development purposes among others. The book under review is the product of culmination of the collaborative effort of the experienced scholars and mentors under the aegis of Strengthening ICTD Research Capacity in Asia (SIRCA), a pioneering capacity development programme aimed at promoting research skills of budding researchers in the Asia Pacific region. The volume comprises the research findings and experiences gained out of such collaboration. The book spread across the four sections, presents perspectives in different categories: 1) management perspective, 2) research perspectives, 3) research outputs, and 4) synthesis and conclusion.

The opportunities, issues and concerns emanating from the implementation of the SIRCA programme are covered in the first section. It is emphasised that the ICT for development research should be more on the analytical and empirical side rather than being descriptive and anecdotal. As the book focuses on linking research to practice, this linkage is visible in the form of undercurrent throughout the book. The First Section on “Management Perspectives: Insiders’ thoughts on the programme” is spread over four chapters dealing with ICTD research, ICT4D and SIRCA.

The Second Section on Research Perspective; Theoretical Reflections by Experts” traversing through six chapters puts forth the reflections in the form of highlight of the key links between theory and practice spread across research institutions and professional development within the framework of ICT for development. All the chapters are woven in a way so as to contribute to take the theme of research forward.

The Third Section throws light on the outcome of the programme and research work done beneath the umbrella of SIRCA. The participants agreed that the programme has provided conducive environment for incubation of new ideas beyond academic traditions, cultural structures and national boundaries. Whole of this praxis has given birth to a network of scholars who come together with the sole idea of using ICT for fueling Millennium Development Goals which were in vogue when the project was implemented.

The Fourth Section lays emphasis on putting the research to practice though it is not easy since ‘academics and practitioners rarely associate with each other and practice is rarely able to have influence at the policy level’, though the potential of research for impact on practice should be identified which could be actualization of a project like SIRCA. This way knowledge would be created gradually subjecting the existing knowledge to ‘testing, validation, and criticism’. The authors have shown grave concern over fragmented approach to research as a solitary activity; the inertia prevailing in the research organisation; lack of integration of knowledge so generated to the practice; and, policy so as to effectively utilize it for training and development activities. The concerns raised by the authors might be prevalent in research organisations of the like nature. The authors come to the conclusion that mapping the research efforts on the canvas of knowledge supply and knowledge demand among the policy and practice communities is imperative to constitute a ‘Knowledge Attic’. In fact the authors put forth four spaces where exchange of knowledge can happen: Knowledge Attic; Knowledge pump; knowledge publisher; and, knowledge dialogue.

Though the book has been brought out in 2012, its relevance in current scenario cannot be understated. It will be a must read for the academics, researchers, practitioners, policy makers, and other stakeholders who consider themselves as an integral part of knowledge creator or knowledge user communities.

Dr. S. K. Pulist is working as Deputy Director, Student Registration Division, Indira Gandhi National Open University (IGNOU), Maidan Garhi, New Delhi, INDIA. He can be reached at skpulist[at]ignou[dot]ac[dot]in
Developing H5P-enabled Interactive Videos in Moodle

Dr. Indira Koneru

Interactivity is a necessary and fundamental mechanism for knowledge acquisition and essential for allowing for learner control of pace and sequence, adaptation, active participation and communication and cognitive engagement for meaningful learning (Barker, 1994; Sims, 1999). By its very nature, interactive content immerses students in ‘interactions’ (actions in between) that allow them to: pause, rewind, repeat and forward parts of the learning content; explore scenarios to think and respond; self-check their progress by answering questions; and receive real-time results and feedback. Interactive content incorporates multi-sensory tools to: engage students in active learning; promote student retention and deeper understanding of learning content; and break up the monotony of one-way lectures.

H5P-enabled Learning Interactions in Moodle

eLearning fosters three types of interaction: learner-instructor, learner-learner(s), and learner-content. Various Moodle (Modular Object-Oriented Dynamic Learning Environment) core modules facilitate promoting the first two types of interaction, whereas the H5P plugin supports the ‘learner-content’ interaction.

H5P Plugin

The H5P Moodle activity module <https://moodle.org/plugins/mod_hvp> allows teachers to create reusable interactive content, namely, Course Presentation, Dialog Cards, Drag and Drop, Fill in the Blanks, Flash Cards, Interactive Video, Multiple Choice Question, Question Set True/False, Summary Questions, Twitter Feed etc. It enables teachers to share and reuse the H5P authored content and capture assessment interactions through Moodle Gradebook. Among the various content types, the ‘Interactive Video’ and ‘Course Presentation’ aid in developing interactive lessons. The ‘Interactive Video’ is useful for enriching an existing video clip with in-video pop-ups, self-assessment questions and other multimedia interactions, whereas the ‘Course Presentation’ is useful for creating a structured presentation with slides embedding various learning interactions and audio narratives. More content types and applications are available here <https://h5p.org/content-types-and-applications>.

Moodle H5P Plugin Installation

H5P is open source, HTML5 and responsive and enables Moodlers to create reusable interactive content. The following steps help the Moodle Administrators to integrate H5P authoring tool with Moodle and to enable teachers to develop interactive content.

1. Install H5P Plugin: Like any other Moodle plugin, install the H5P plugin in either of the following two ways: (i) Installing from the Moodle interface or (ii) Installing manually.

2. Install from within Moodle: Navigate to Site administration à Plugins à Install plugins to install it from the Moodle interface.


4. After successful installation, verify the H5P settings, such as ‘Save content state’, display ‘Download button’, ‘Copyright button’ etc. and save changes.

Creating Interactive Videos using H5P

The H5P ‘interactive video’ is useful for enriching an existing video with in-video pop-ups, self-assessment questions and other interactions. It allows teachers to create adaptive assessment interactions and students to rewind, replay and forward parts of the video and set the playback rate. The steps detailed hereunder help teachers to create interactive content using the H5P plugin.

1. When your Moodle course is on editing mode, pick up the H5P activity through ‘Add an activity or resource à Activity chooser’.

2. On the ‘Adding new interactive content’ screen, give a name and description to the interactive content and click the ‘Interactive Video’ from the Editor list (see Figure 1).

3. The Interactive video editor consists of three tabs (i) Upload/embed video, (ii) Add interactions and (iii) Summary task (see Figure 1).


---


to upload a video file (in mp4 or webm format) or paste a URL of a YouTube or Vimeo Pro video. Press the ‘Edit copyright’ button to provide copyright information.

5. **Add interactions:** Press the ‘Add interactions’ tab on the ‘Interactive Video Editor’ to add interactions.
   
i. Use the toolbar above the video clip to add interactions (see Figure 2). Click on an interactive element button and drag and drop it on to the video.
   
ii. Type in the **start time** and **end time** in the **Display time** field and check the **Pause** checkbox, if you wish the video to stop automatically when the interaction appears.
   
iii. Add **bookmarks** to your video either to draw students’ attention to or enable students skip to specified parts of the video (see Figure 2).

iv. Click on other buttons on the toolbar to add interactions, such as text, image, link, questions (MCQ or True/False) etc. Blue and purple dots added to the timeline below the video indicate the interactions added to the video (see Figure 2). Purple dots indicate the assessment interactions.

v. Create assessment questions, such as MCQ to promote self-assessment. Add the question, multiple answers and feedback to correct and incorrect answers. Similar to other interactions, specify the **start time** and **end time** for the self-assessments and check the **Pause** checkbox to stop the video automatically when the assessment questions appear. This helps us to capture student’s score in the gradebook.

vi. Use the adaptivity feature for assessment questions.

Enter the time code in the format M:SS to take ‘Action on wrong’, i.e., send user back to a specific part of the video or ‘Action on all correct’, i.e. jump to another part of video (see Figure 3).

6. **Summary task:** The summary task / quiz will appear at the end of the video. Click the last tab ‘Summary task’ to add set(s) of summary statements to enable the learner reflect on the learning content presented in the video. By default the first statement is correct.

Explore various activity and assessment interactions of the Moodle H5P plugin to: create videos interspersed with pre-defined interactions and self-check assessments at predetermined times and provide immersive and engaging experience to students on par with other MOOC providers, namely, Coursera, Udacity, edX etc.

---

**Dr. Koneru** is a Faculty Member, eLearning at IBS (Icfai Business School). She manages the IBS eLearning Department and administers Moodle for six IBS Campuses. She trains Professors at Icfai Group of Institutions and at various Academic and Research Institutions across India on eLearning – Moodle, Educational Technology and Tools, Blended Learning, Learning Design, Open Educational Resources, eAssessment etc. She is a Doctorate in Open Distance Education and a Certified Instructional Designer. She has developed Distance Education Self-Learning Materials (SLM) for Icfai University, Dr. BR Ambedkar Open University and ICAR-NAARM PG Diploma in Educational Technology and Management (PGD-ETM). OER-enabled eLearning and Teaching-Learning Analytics are her research interests. She can be researched at indkon[at]gmail[dot]com
MOOCs in Agriculture - An experiment

G.R.K. Murthy*; D.T. Raju; S. Senthil Vinayagam; and M. Krishnan

This is a success story of MOOCs implementation with a very high course completion rate of 52 per cent. This case study introduces a very important domain in India – Agriculture and its relevance for MOOCs and addresses the most pertinent question – “What makes a successful MOOC?”

Knowledge in Agriculture – A prelude

Agriculture is an evergreen sector for Indian economy and sustenance of mankind. All key players in the supply chain from farmer who produces the food to the end-user who consumes it require proper synergy and coordination. Any weak link in the supply/value chain can severely affect the rest of the stakeholders. Knowledge and information at every stage form the key component in the activity planning and growth of the domain. Consider the following real life scenarios.

A Rice transplanter while working in a puddled wet paddy field gets bogged down. The farmer needs an urgent assistance or technical help to repair the machine. If there is delay in attending to repair, entire effort of land preparation will be a waste. The farm operations have to be started afresh. It results in wastage of resources like water, labour and energy and of course the cost of cultivation. Timely help to provide right advice or expertise in such situations is very critical.

A rural youth hears about the profit-making entrepreneurship avenue like mushroom cultivation or floriculture or artificial insemination in cattle. He is interested in setting up such venture in his village but doesn’t know how to start the process and where to contact and market.

A housewife has a backyard poultry and wants to expand it further to improve her income. She is interested in learning the management aspects of the poultry to expand the activity for high profitability.

A teacher in an educational organization wants to enhance his teaching competency by adopting better teaching methods and styles. But his academic commitments constrain him to opt for attending any training programmes offered elsewhere because of shortage of time and convenience.

All the above examples lead to one common point- need to train or sensitize the client in the concerned area. Building the capacity of the clientele through sensitization or skill building or training programmes in conventional method can only train few in a restricted geographical boundary. It also involves needs assessment in each area and designing the programmes accordingly.

Massive Open Online Courses (MOOC) can provide an answer to the aforementioned contexts. It is a growingly accepted practice in spreading knowledge faster and wider across all subject domains. It has relevance in countries like India where there are larger masses to be provided education, knowledge, learning within the framework of available infrastructure.

MOOC in Agriculture – How is it different from other domains?

The key factors that makes MOOC relevant in agriculture are

i. Diversification in the subject domain
ii. Varied formats of knowledge delivery
iii. Diverse users
iv. Remote location of clientele

Diversification in the subject domain

It is a general notion that agriculture deals with plants and their management. On contrary, it comprises many subdomains like

- Crop sciences/Agriculture
- Animal Sciences/veterinary
- Engineering and Technology
- Home science
- Horticultural Sciences
- Fishery Sciences
- Dairy Technology
- Food Technology
- Forestry

Knowledge in Agriculture is science-oriented and skill oriented also. The knowledge in the form of science is available in organized format through structured educational programmes like Graduate and Post graduate programmes. However, the skill related activities are not properly structured and are not available in open domain of knowledge. If these
activities are capsuled in proper format, it can help skill development, provide instant solutions to practical problems encountered on field and provide scope for those who want to get updated or trained in a particular area. The granularity of these knowledge nuggets can be used in modularity across subject and application domains. Thus the duplication can be avoided in delivering the same content for different contexts and purposes.

Unlike many sectors agriculture has a specificity with region (based on soil type), climate (based on rainfall and other factors), social structure (based on economic status of farmers, local language, literacy level, rural background of students etc.), nature of clientele (farmers, students, working professionals), purpose (Graduate education, para-disciplinary courses for employment generation, farmer service centers) knowledge in this domain has to be treated with different approaches to make them meaningful to MOOCs.

Most of the state agriculture universities in India still use traditional method of teaching and obsolete resource material. They lack good text books combining theory and case studies. Ineffective communication skills of some faculty is another problem (Tamboli and Nene 2013). Many of these issues can be addressed by taking of advantage of technologies like MOOCs.

**Varied formats of knowledge delivery**

Unlike other sectors, Agriculture has a wide variety of knowledge applications-

- traditional education touching upon scientific aspects of crop and allied sectors,
- vocational education which transforms the semiliterate or rural youth to build a sustainable livelihood occupation,
- skill-building for rural folk or a progressive farmer who can develop few competencies that address day-to-day agri-related issues,
- distance education that provides opportunity to mid-career professionals or other aspirants who want to learn but having constraints of time and location limitations.

**Diverse users**

The knowledge in agriculture is beneficial to a wide range of end users like - farmers, students, policy makers, line department officials, Industry who all view the same content from different perspectives. Consider the example of Knowledge on tractor. It needs to be delivered by MOOCs.

- for farmers from practical standpoint like repair, maintenance, method of driving etc.,
- for students with scientific principles and relating it to the tractor using theory from Internal combustion engines, thermodynamics, automotive mechanics etc.,
- for policy makers with touching the economic aspect of the tractor and its suitability to different regions
- for line department officials with information on subsidy, availability and utility etc.,
- for Industry with information pertaining to Research and Development, Marketing potential, techno-economic feasibility etc.,

**Remote location of clientele**

India lives in over 6.5 lakh villages where agriculture is the chief occupation of over 50 per cent of the Indian population. Most of the villages lack basic amenities. The concept of last mile connectivity is still a dream for many of them. Most of the agricultural universities and research and technology transfer organizations also are located in these areas. Empowering the people in these areas with knowledge is a daunting task. There has been steady improvement in communication infrastructure in these areas in the recent past.

Technology milestones like the mobile revolution is a silver lining in taking knowledge to the doorsteps of those live in remote locations.

**MOOCs implementation in agriculture**

Implementation of MOOC had the problem of low completion rates (being less than 10 per cent) in most of the courses. Since MOOC is relatively new concept which needs to be carefully introduced in the domain of agricultural education, proper standard operating procedure needs to be evolved for ensuring proper course completion rates. The ICAR-National Academy of Agricultural Research Management, Hyderabad tested MOOC on a pilot basis.

**MOOC implementation – The Process**

1. **Developing MOOC platform:**

   **Technology Selection**

   MOOC is generally hosted on a third party platform. Though this is a simpler option, it depends on policy level interventions to standardize the content development, management and administration processes. Agriculture education in India has been familiar with e-learning technology called MOODLE on which a wealth of graduate level course repositories were developed and made available in open access environment (http://ecourses.iasri.res.in). This prompted to use the already familiar learning environment to be converted into MOOC platform. Hence some preliminary studies were conducted during some training programmes conducted at the Academy where the users were encouraged to access the content in MOODLE and interact in MOOC-like
environment. After ensuring the right environment for MOOC that can be enabled through MOODLE, a prototype MOODLE site was developed and hosted on web.

**ii. Subject selection and content development**

Subject to be dealt in MOOC is decided in order to reach maximum number of users. MOOC has to deal such a subject that can be of interest to all. Since teaching competency is one of the commonly felt area where training is required, it is considered as the focal theme for offering MOOC.

Once the theme was decided, the content for the same was delineated and the panel of content developers having relevant expertise was identified. Academy’s state of art Technology Enhanced Learning (TEL) Laboratory was used to develop the video-based lectures. TEL acted as a center for developing all the relevant course content. Five subject experts have contributed content for the course. The content is edited and transformed into suitable format for accessing through web.

**iii. Course administration and management**

Course administration included the strategy to reach out to the clientele and facilitate them to register for the course. Apart from electronic communications including emails, social media, web announcements, some of the training programmes and national fora are also used to spread the awareness about the programme. An online registration form was created and integrated into MOODLE home page. Registration process was allowed till the first day of the course start.

The content in the form of videos, documents, presentations, internet links are provided week wise. Each lesson video had a provision to discuss about the topic. First three weeks are devoted to impart the necessary knowledge and skills about the subject while the fourth week is scheduled for the activity of participants where they are expected to develop model teaching video of 3-5 minutes duration and upload the same. The videos by participants are evaluated along with necessary remarks by peers and experts.

**iv. Evaluation, certification and feedback**

Interaction between teacher and learner is very important in a MOOC. Discussion forum is widely used as a platform for interaction. A forum called course feedback and Community of Practice were introduced to invite the feedback and sharing of resources from all the participants of the MOOC. Certification is an important driving force for a learner to participate in MOOC as it provides recognition of the learner’s efforts to seek knowledge in MOOC mode. Following procedure is adopted to qualify for certification.

*Certificate of Participation*– for Participants who have participated in a minimum of three online discussion threads

*Certificate of Completion*– for Participants who have participated in a minimum of three online discussion threads and have uploaded teaching video as per course guidelines. Participants shall post a minimum of three discussion threads spread over entire course duration (FOUR weeks) and different topics for the award of certificate.

*Entire MOOC process is depicted in Fig 1*

**Learnings from the Study**

The MOOC experience was replicated twice in two years with completion rates of 22 and 52 per cent. These rates are by any means a very impressive completion rate and hence the process evolved can be called a very successful attempt. The reasons for these can be attributed to the following factors

i. **Brand value:** ICAR-NAARM, a unique organization in the country carries a brand value because of its global visibility and linkages. The registered students could realize the value of certification from a reputed organization by simply attending online without having to undergo the programme in person.

ii. **Focussed work group for highly responsive environment:** MOOC involves coordination among the content management, user administration, evaluation, network management etc., which requires multiple competencies. MOOC activities were designed with the technologies on which local competency was available. Since all the activities were done in house, there is less downtime/ response time in any technical emergency and attending to the user-related issues. Sustaining user interest is very important in MOOC. Any difficulty in MOOC experience will severely influence the interest in the user to continue in the participation in MOOC.

iii. **Multiple support formats for the learner:** It is important to recognize
that most of the users are either new to the kind of online learning environment or not comfortable in the beginning with the navigation to access content or logging into the course pages. Any difficulty in the beginning can turn off the users once for all. Hence, it is vital to attend to the user’s queries/issues at the earliest through email, mobile communication platform like SMS or whatsapp or even some times phone call. All these formats will ease out the initial learning inertia. This is also a major factor influencing high course completion rates.

iv. Coherence in group: Though the basic philosophy of MOOC entails anybody to learn, an element of seriousness/purpose in learner group is needed to complete the MOOC. This can happen only when there is some uniformity in the user profile who have a similar learning requirement. In this attempt, besides opening the MOOC to anyone to register, the group of teaching and aspiring teachers like Post Graduate scholars were specifically targeted in offering the MOOC. This brought coherence among the group interaction and knowledge requirements.

MOOC- Potential in Agriculture

The experience in implementing MOOC has shown that there is vast scope for MOOC in agriculture for various purposes- distance, vocational, skill building etc., and various user type-students, farmers, policy makers etc., The innovative MOOC implementation using open and freely available technologies is very effective and can be replicated in a big way. The same can be integrated into any larger MOOC initiatives taken up on a larger scale.

References


Dr. G.R.K. Murthy is working as Senior Scientist at Education Systems Division, ICAR-National Academy of Agricultural Research Management, Hyderabad, INDIA. He can be reached at grkmurthy07[at]gmail[dot]com
Forthcoming Events

The 27th International Council for Open and Distance Education (ICDE) World Conference.

Theme: Teaching in a Digital Age - Rethinking Teaching and Learning.
Venue: The Sheraton Centre Hotel in Toronto, Canada
Date: October 17-19, 2017


1st International Conference will be organised by Krishna Kanta Handiqui State Open University, Guwahati, Assam, India

Theme: Developmental Interventions and Open Learning for Empowering and Transforming Society
Venue: NEDFi Convention Centre, Dispur, Guwahati, Assam, India
Date: December 16-17, 2017

For more information: http://conference.kkhsou.in/index.php

The National Higher Education Research Institute (IPPTN) and the School of Humanities, Universiti Sains Malaysia in collaboration with Sunway University and Han Chiang College will be organising a National Conference.

Theme: Creativity in Education & Humanities 2017: Empowering People (NCC2017)
Venue: Chancellory 2, Universiti Sains Malaysia, Penang
Date: October 25 – 26, 2017

For more information: http://ncc2017.usm.my/

ICTLHE 2018: 20th International Conference on Teaching and Learning in Higher Education

Venue: Holiday Inn Paris Montparnasse, Avenue Du Maine, 79-81, Paris, 75014 France
Date: June 25 - 26, 2018

• Abstracts/Full-Text Paper Submission: August 25, 2017

For more information: https://waset.org/conference/2018/06/paris/ICTLHE

The Singapore Education Technology Conference 2017 (SETC 2017) jointly organized by East Asia Research and Siam University will be held in the cosmopolitan city of Singapore.

Date: August 23-24, 2017
Venue: Holiday Inn Singapore Atrium, 317 Outram Road Singapore (169075)

For more information: http://setc.ea.com.sg/

12th International Conference on ICT for Development, Education & Training

Theme: Learning in Context
Date: September 27-29, 2017
Venue: Intercontinental Resort, Balaclava Fort, Balaclava, Mauritius

For more information: http://www.elearning-africa.com/index.php