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Skills, Scale and Speed: Harnessing MOOCs for Large Scale Capacity Development

Many agencies are experimenting with MOOCs (Massive Open Online Courses) for enhancing the capacities of rural communities and knowledge intermediaries. MOOCs offer huge potential for enhancing the capacities of extension and advisory service providers. In this blog, Dr V Balaji shares his experience of using MOOCs in the area of Mobiles for Development.

INTRODUCTION

Skills development is a policy priority in all countries irrespective of their status in the global economy. Not only should skills be developed, they should be developed at scale and at speed, as articulated by the Prime Minister of India recently. MOOCs have showed the potential for delivering learning to hundreds of thousands of people in a single offering. There is a need to build prototypes and programs to harness them in enhancing the capacities of farmers and the intermediaries in the farm to market value chain.

Box 1: What is MOOC?

The MOOC (Massive Open Online Course) is a recent development in the area of technology mediated learning. It is, in its fundamentals, an internet technology. It combines a host of online content management techniques with a host of workflows, and further provides components of social networking. An important advantage of the MOOC is its scale: a single course offering can be availed with the course duration by literally hundreds of thousands of people. With the MOOC, a handful of people- the instructor and a group of teaching assistants -can offer a course to thousands of learners in a single offering.

The first MOOC was offered in Canada in 2007 to a couple of thousand individuals. However, it received wider notice, especially in global media, only in the year 2012 when a MOOC offered by the Massachusetts Institute of Technology (MIT) on an advanced topic in digital circuits had attracted about 200,000 joiners. The same course, in a classroom setting, would have enrolled less than 100 students. Globally renowned research universities such as the MIT, Harvard and Stanford have been pioneers in developing MOOCs.

The media coverage and scholarly analysis tend to create a broad view that MOOCs are branded services, requiring elite research universities and venture capital-driven Internet companies to organize and offer them. Secondly, these analyses have tended to look at the MOOC as a development affecting only the Higher Education sector, that too, only in North America. However, MOOC has huge potential in other sectors too.

MOOC and COL

In Commonwealth of Learning (COL), we observed the scene closely and arrived at a view that MOOC is primarily a collection of Internet technologies. The brands were unimportant since any capable group can similarly put relevant Internet technologies together. The scale advantage in the MOOC was an attraction, for it can potentially be used to reach out thousands if not tens of thousands of learners that lacked training and capacity building services. Thus, MOOC could be used in support of human development if the components can be put together and scaled up in an affordable manner.

Box 2: Commonwealth of Learning
Hosted by the Government of Canada and headquartered in Vancouver, Canada, the Commonwealth of Learning (COL) is the world's only intergovernmental organisation solely concerned with the promotion and development of distance education and open learning.COL was created by Commonwealth Heads of Government to encourage the development and sharing of open learning/distance education knowledge, resources and technologies.
The Commonwealth of Learning helps governments and institutions to expand the scope, scale and quality of learning by using new approaches. COL promotes policies and systems to make innovation sustainable and works with international partners to build models, create materials, enhance organisational capacity and nurture networks that facilitate learning in support of development goals (www.col.org)

We worked closely with Professor T V Prabhakar of Indian Institute of Technology Kanpur in arriving at this understanding. Professor Prabhakar further proposed that we consider the MOOC as the equivalent of an event, a media event especially and to work with it as a virtual conference rather than as a virtual classroom.

In a parallel track, COL had been consulting development partners in various countries about the role of mobile communication technology in producing viable benefits for human development. Two consultations were organized in India during 2012-13 and they both revealed that partners in development felt the need for a neutral platform to learn about key issues and developments in that area of technology that can have an influence on human development. Thus, we decided that it would be useful to organize a MOOC on Mobiles for Development (M4D).

We invited IITK to partner with us and take the lead in designing and offering this MOOC. Since certification is important for learners that invest their own time and resources (such as costs of accessing Internet from their homes, offices and other workplaces), the course team sought to offer certificates of participation or competence to eligible participants. IITK (Center for Continuing Education) and COL agreed to co-sign the certificates.

MOOC on MOBILES FOR DEVELOPMENT (M4D)

The course, in English, was offered during Oct-Nov 2013 and the efforts to market it started in late August 2013. At the start of the course, there were 2282 joiners from 116 countries. The top five countries were India, Nepal, Mauritius, Grenada and South Africa. Almost 500 joiners were from countries in the Africa-Caribbean-Pacific regions. About 200 joiners were from OECD countries and from the Eastern European region.

Core faculty

The course, led by Professor Prabhakar, was designed as a knowledge enrichment course in technology topics for non-technology people. IITK faculty covered the core technology topics. Topics related to education, banking/financial inclusion and agricultural extension were also covered during the course. The Agropedia/vKVK team at IITK also covered topics in mobiles in agriculture. Professor Mohamed Ally, an internationally renowned expert in m-learning based at the Athabasca University, served as the lead for the section on mobiles in education. A group of experts from the National Institute of Bank Management, India, covered the topics on financial inclusion. COL led the marketing of the MOOC and coordinated participation of non-IITK faculty. IITK which led the course also managed the platform and technology components.

Methodology

The course material was delivered as videos. These were supplemented by PPT slides and scripts of video talks (to help offset accent variations). Those who could not access the online videos consistently were able to use the PPT slides and scripts. The MOOC provided for a chat room where any learner could post a comment or a question. There was a forum available online with tracks for specific topics.

The participants were expected to spend about four hours per week for six weeks to gain a reasonable knowledge of mobiles in development. In all, a total of 92 videos (ranging in length from two to 25 minutes) were generated, along with all the associated PPT slides and scripts. These have been released as Open Education Resources once the course was over and are meant for re-use and adaptation by any interested individual or organization anywhere.

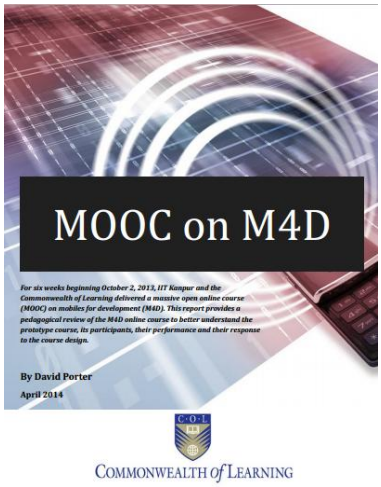
Out of the joiners, a total of 1461 individuals or about 62% of joiners were active through the course. There were frequent assignments and two quizzes were offered. Instructors joined the chat room and discussion forums on a daily basis and answered queries and wrote individual participants that needed help. They also were available once a week for real-time chats. Since the participants came from 18 time

zones, the instructors joined in at different times in India and Canada to support as many participants as possible.

Participants who had viewed a minimum percentage of videos and PPT were eligible for a participation certificate; those who participated above minimum and received scores above a certain percentage in the quizzes were eligible to receive a competence certificate. At the conclusion of the MOOC, a total of 333 certificates were issued (244 competence certificates and 89 participation certificates). Of these just over 90% were from developing countries.

Feedback

A survey of participants after the course revealed very high levels of satisfaction. The content was rated relevant and the competence of instructors also received an excellent rating. More than 90 percent of the participants stated that they would recommend the course to others if offered again. An external evaluation of this MOOC from a pedagogic perspective was carried out during March-April 2014. This evaluation noted that the "M4D online course demonstrated that a low-cost, open source software delivery platform combined with open educational resources (OER) could be used effectively to provide a hybrid MOOC environment that served over 1,400 learners" (COL, 2014). The report of this evaluation has been published as an Open Access document on COL's web site.



LEARNING from MOOCS for M4D

Needs own flexible pedagogy:

To be effective, MOOC requires its own pedagogy. MOOC is a new medium in learning technology and is still an emerging area. IITK team had organized a previous MOOC in software topics and was able to use that learning, along with COL expertise in instructional design, in building an effective pedagogy. A key aspect of this is the "chunking" of content, avoiding long "talking heads" videos. Faculty from research universities need time to ingrain this teaching attitude. Weekly summaries were provided to participants via email. Cross-media approaches were adopted: for example, when three groups of participants in Sierra Leone, Zambia and Nepal had difficulty in Internet access, the course team couriered the material on DVDs. These groups were then able to attempt the quizzes.

New topics for MOOCS:

The participants from the MOOC on M4D suggested the following topics for coverage in future MOOCs:

- Educational topics: instructional design, applications of mobile technologies for teaching and for use in libraries
- Agricultural topics: GPS, GIS, meteorology, fuzzy logic, mobile use in agriculture with expanded cases studies from other areas of the world

- Management: knowledge management, management skills, technology transfer
- Research: research methods, research methods employing mobile technologies
- Digital media: web development, media production, HTML5, media storage preservation
- Entrepreneurship: small business development, small business development in rural settings
- Finance: banking, alternative banking systems, micro-finance, organization and management of cooperatives
- Gender: gender equity, gender issues

Up-scaling MOOC:

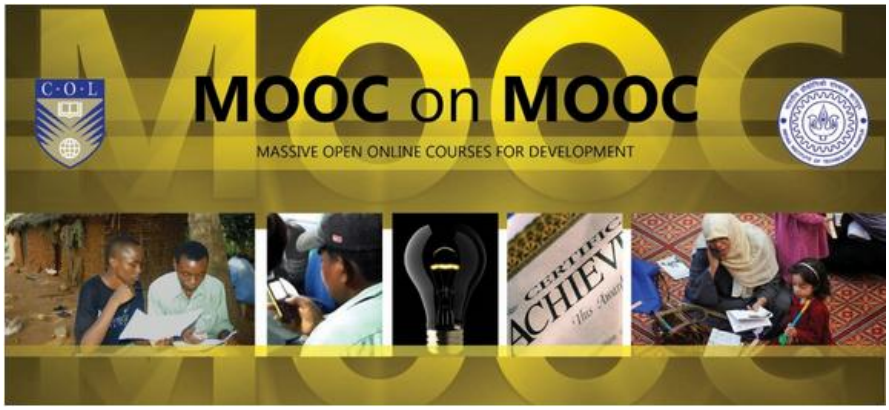
COL organized a brain storming session with the National Academy of Agricultural Sciences (NAAS), New Delhi, on the relevance of MOOCs in Indian agriculture (March 2014).

The participants recommended that MOOC-for-Development should be a movement in India and that MOOCs should be built from the perspective of skills development in agriculture at all levels. It is also useful to note that the BRICS summit in Brazil decided to form a Network University of BRICS while the Prime Minister of India, in his speech in the same context, identified MOOC as a channel for Youth Engagement. The policy environment thus is favorable to build a paradigm of MOOC for Development, covering agriculture and food, rural development and well-being of farmers.

It is possible that further efforts in MOOC for Development are more likely to be led by national agencies or NARES than by international agencies. The latter have, for over a decade, de-emphasized training and capacity strengthening as autonomous activities that contribute to creating institutional impact. Training is viewed as a component of research programs, thus diminishing incentives for deploying pedagogic and process-oriented innovations in capacity development. There are no clear incentives for the for-profit international organizations in agriculture to engage in training and capacity building where definite revenue streams are unavailable.

MOOC on MOOC

COL and IITK are organizing a MOOC on MOOC (http://mooconmooc.org/) aimed at educators and policy makers in development institutions who are interested in creating social and economic impact through mass training. This course is partly an outcome of the discussions organized with the NAAS in India earlier in 2014. The course is meant to acquaint the learner with all the basic concepts, processes and procedures associated with the MOOC and will give a flavor of the technology matters. It is meant for teachers in any institution of higher education at any level, for administrators of colleges and universities and students and professionals who wish to take advantage of MOOC for career development. This course will be in English. It starts on 5th September 2014 and will run for four weeks. Learners are expected to commit up to four hours per week. Registration is free and open to anyone interested and there are no pre-requisites.



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Dr V Balaji is currently the Director of Technology and Knowledge Management at COL. Prior to joining COL in 2010, he had served at ICRISAT for about a decade as the leader for KM and IT. His current interest is in MOOC for Development and in deployment of an affordable, low-cost new device called Aptus (www.col.org/aptus) that enables rural families to access internet-based resources even if there is no connectivity (vbalaji@col.org)