

Massive Open Online Courses and Perspectives from Learners In Developing Countries

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ABSTRACT

Massive Open Online Courses (MOOCs) are a recent, innovative addition to the online learning landscape that can provide learning opportunities to large numbers of people across the globe. Within a short time span, MOOCs have become a popular phenomenon with many viewing them as ‘the solution’ to the developing world’s lack of access to education. However, there are many factors that can affect successful participation/learning in a MOOC, which can especially be challenging for learners from developing countries, who face greater difficulties of ‘access’ (physical as well as sufficient level of digital literacy), and have to negotiate learning in languages and cultural settings other than their own. This paper uses personas of four typical learners from developing countries and discusses what MOOCs would mean to them. Building upon the experiences of these learners, the discussion forms a holistic view of challenges faced by learners from developing countries in engaging with MOOCs and the opportunities/threats that MOOCs will bring, ranging from access issues to extending opportunities.

KEY WORDS

MOOCs, Developing countries, eLearning

1. INTRODUCTION

“A massive open online course (MOOC) is a potential by product of open teaching and learning” (Cormier & Siemens, 2010) that offers online learning opportunities to, potentially, the world. They are open for registration and no fees are charged for the basic offering. Many renowned universities are offering MOOCs; for example Massachusetts Institute of Technology, Harvard University, Berkeley University of California, University of Edinburgh, University of London and many more. A recent report identified the value positions of institutions providing MOOCs as ‘education access,

experimentation and brand extension' (Educause, 2012). There have also been for-profit ventures such as Coursera (www.coursera.org) that have now become major MOOC platforms. MOOCs offer an educational opportunity for anyone interested in joining these online courses.

Distance education plays a significant role in bringing about equity by providing higher educational opportunities, especially in the developing world where access to higher education is an increasing concern, thus maximising human resource development, which, in turn, benefits economic and social development (Liyanagunawardena, Adams, Rassool, & Williams, 2014). MOOCs are also a form of distance education provision that rely on information and communication technologies (ICTs). They attract learners from across the world with various abilities and have the 'potential' to play a major role in providing equity and social justice by educating the masses (Liyanagunawardena, Williams, and Adams, 2013).

2. BACKGROUND

There are many vendors providing MOOC platforms and many universities offering MOOCs. For example, in Coursera there are 114 partner universities (as of 25 October 2014) offering MOOCs. Mostly these are North American Universities with a few from elsewhere. Not only in the developed world but also in the developing world MOOCs seem to be gaining popularity. For example, EducateMe360 (www.educateme360.com) is an Indian trust looking to offer MOOCs to people from developing countries and beyond; Generation Rwanda is initiating a fully MOOC based University in Rwanda (Leber, 2013); and Rwaq (www.rwaq.org) is a new platform offering courses in Arabic. In September 2013, edX partnered with Google to jointly develop the edX open source learning platform, Open edX, to expand the availability of the platform to individuals and institutions around the world, thus giving anyone interested in offering a MOOC a free platform.

Initially almost all MOOCs were run in the English language, but today there are MOOCs running in many other international languages such as French, Spanish and German. As of May 2015, Coursera offers MOOCs in 30 languages other than English. However, English remains the dominant language in the MOOC provision; in fact, the initial code of conduct of FutureLearn required all contributions to be in English 'unless specifically requested to do otherwise' (FutureLearn, 2013).

Despite MOOCs attracting large number of learners and having prestigious universities as providers, accreditation of MOOCs remains an open issue. Rodriguez (2012) argues that '[w]ithin the realm of open online courses the traditional accreditation models become inappropriate'. He shows that in some MOOCs not all participants are doing the same work, which makes it difficult to evaluate the participants using traditional methods. MOOC providers present different credentialing tools to recognize successful MOOC participants: some MOOCs provide a letter of accomplishment from the facilitators; some others use online badges. Paid-for certificates of completion, invigilated testing centres and 3rd party credentialing are some other mechanisms in use (Anderson, 2013). The American Council on Education approved five MOOCs for college credit in early 2013 (Kolowich, 2013) and the prestigious Georgia Institute of Technology has admitted the first cohort of students to their online Master's degree (Straumsheim, 2013) offered in partnership with the MOOC provider Udacity (www.udacity.com) paving way for others to seriously consider MOOCs for college credit.

2.1 Participation in MOOCs

2.1.1 Demographics

A recent report by Christensen, et al. (2013) gives an understanding of the characteristics of MOOC participants. Their large scale survey attracted over 34,000 responses from students from 32 MOOCs offered by the University of Pennsylvania on Coursera platform. The large majority of participants (65.3%) were from OECD countries (The Organisation for Economic Co-operation and Development, originated with 18 European countries and the United States and Canada. Today it has 34 member countries, almost all developed countries). Brazil, Russia, India, China, and South Africa (BRICS) accounted for 14.8% while all other developing countries had a share of 19.9%. Nearly four out of five (79.4%) participants had a Bachelor's degree or higher. Significantly more males (59%) were among the participants. Participants also tended to be young and employed. Similar results were since reported by Ho et al (2014) regarding the participation of the first 17 courses on edX platform. Only 29% of the registrants were female while a mere 2.7% were from Least Developed Countries. Most registrants (28%) were from the United States followed by India (13.2%) and the UK (4.1%). The median of education level across all courses was a Bachelor's degree. Reporting on the second year of edX MOOCs, Ho et al (2015) show that female participation has increased to

32%; the number of participants with at least a bachelor’s degree was 71%. All these recent and large scale studies show that educated males are more likely to take up MOOCs. On the other hand, FutureLearn pre-course survey results (FutureLearn, 2014a) across 37 courses (as of May 2014) showed that the majority of learners (nearly 60%) on this platform are females. Even in the courses categorised under “Science, Technology, Engineering and Maths”, over half of the participants were female. However, similar to Coursera and edX, the large majority of FutureLearn participants too had a university degree or higher educational qualifications (78%). As of September 8, 2013, estimated enrollment and worldwide proportions of registrants in top 10 countries of origin for 18 HarvardX courses is published by Nesterko et al (2013). The percentage of registrants as a fraction of country’s population show that even though India, Pakistan and Nigeria are within the top 10 countries for registrants, only a very small proportion of the country’s population has access to these courses. For example, while some 8% of Americans have registered on MOOCs only 0.44% Indians have.

Table 1: Estimated enrollments and worldwide proportions of registrants in top 10 countries for 18 HarvardX Courses - adapted from Nesterko et al (2013)

Country	Registration	As a % of total registrations	As a fraction of the county’s population, 1/100%
United States	242,279	42.29	7.64
India	54,230	9.47	0.44
Canada	21,853	3.81	6.22
Australia	12,474	2.18	5.38
Nigeria	12,067	2.11	0.70
Brazil	11,243	1.96	0.56
Spain	10,582	1.85	2.27
Philippines	10,099	1.76	1.03
Pakistan	9,505	1.66	0.52
United Kingdom	8,066	1.41	1.27

2.1.2 Dropouts and non-completion

Although there are large numbers of participants enrolling in MOOCs, only a small percentage (~10%) complete the course (Liyanagunawardena, Adams and Williams, 2013). According to Jordan’s (2013) collated completion rates for MOOCs (as of 25 October 2014), the highest completion rate achieved was

52.1% in MoocGdP#1 by ÉcoleCentrale de Lille on the Canvas.net MOOC platform. MOOCs being free inevitably attracts many more enrolments than a paid-for course. There is also a growing concern whether the traditional definition of 'dropout' (to refer to all but those who completed the final assessment) could be directly applied to MOOCs (Liyanagunawardena, 2014; Liyanagunawardena, Parslow and Williams, 2014). For example, in traditional course students pay fees and commit themselves to participating in the programme; on the other hand, in a MOOC, because both registration and enrolment are free, there is no binding commitment from students. There is also the possibility that some learners may enrol on a course to follow only a specific topic. Due to this, Ho et. al (2014, p2) argue that "[c]ourse certification rates are misleading and counterproductive indicators of the impact and potential of open online courses". To increase overall certification/completion rates in MOOCs the solution may be to restrict access (Ho et al, 2015), but this inevitably will devalue the concept of openness surrounding the MOOC initiative.

2.1.3 Information overload

Some MOOCs encourage learners to create and share their own content. Because there are a large number of learners in a MOOC, this creates a huge volume of information. As discussions among participants are also encouraged in these MOOCs, together with the course content, participant created content presents a huge 'information overload' for most participants. Unless they are fluent in information processing or have had experience in participating in a MOOC it could be very difficult for a participant to be engaged. Milligan et, al. (2013) found that the vast majority in their study who actively participated in the Change11 MOOC had had previously studied in a MOOC.

2.1.4 Amount of support

The support provided to learners in MOOCs varies widely. As can be expected from a course where a huge number is participating, the facilitators will only be able to provide limited support for the learners. But the learner community formed around a MOOC act as a peer support group, creating valuable networking links that can last beyond the MOOC. deWaard (2011) argues that because MOOCs are learner-centred 'the participants are responsible for their own learning'. However, learners from different cultures with various prior learning experiences may find this challenging. For example, a recent

qualitative study exploring experiences of participants in Change11 MOOC reported that some students felt frustrated and dissatisfied with the MOOC and 'failed to see the inherent value of learning through the network' (Milligan, et al., 2013).

MOOC+ is a model where students in a locality take a specific course alongside meeting up at a local college for lessons. This blended form of learning may be more suited for first time online learners and/or for participants who are learning in a foreign language. In both instances the MOOC+ model can allow these participants either to access materials and or information in traditional form while also providing community support possibly in the language of the participants. Vanderbilt University had experimented integrating the Stanford University Machine Learning MOOC into a graduate course in machine learning in a blended course design (Bruff, et al., 2013) and shows the need for more creative experimentations of such kind.

2.1.5 Time Demands

All MOOC providers give an estimate of the time required to participate in their MOOC. However, this can vary due to various reasons including individual differences (such as reading speed, comprehension capacity, amount of familiarity with the subject), time required to access resources (for example, speed of internet connection, quality of internet connection, accessibility of internet). Consider a student accessing a MOOC via a dial-up connection. Despite his/her best effort, the limiting factor here will be the speed of connection, which can mean that he/she may have to spend much longer than the MOOC providers have estimated. Because the learning in a MOOC happens around other life commitments and MOOC is a voluntary engagement, demand for time on other priorities can also affect MOOC engagement. Thus time management also is an important skill for a MOOC learner.

2.2 Pedagogy

The pedagogy in a MOOC is the main classifier used to identify MOOCs: cMOOCs or connectivist MOOCs and xMOOCs or 'MOOC as eXtension of something else' (Downes, 2013). However, in traditional learning settings the pedagogy adapted seem to be influenced by the culture. For example, in some Asian societies with high power distance (the extent to which people accept that power is distributed unequally) the teacher is considered the authority

who gives the information to students. Huang (2005) reports that one participant of his study on problem-based learning, a Chinese international student studying in a UK university, had remarked '[i]t was so frustrating when we were having PBL [Problem Based Learning] sessions. To me, PBL sessions really meant wasting time in class'. A learner from a similar setting participating in a MOOC may find it difficult to adapt to the new style of learning and might also consider the peer discussions a 'waste of time'. On the other hand, students who have learned in a setting with more constructivist approach to learning where students play a significant role in their own learning may find the experience familiar and easy to adapt to.

3 APPEAL FOR DEVELOPING COUNTRIES

3.1 Open

The level of openness in a MOOC can vary. Some MOOCs provide their content under one or more Creative Commons licenses, which can allow redistribution and creation of derivative work of the original while in others the content is copyrighted. In some instances, this could be a decision that depends on the content provider's licensing agreement. While most MOOCs do not require prerequisites to participate, some can, which can impact the numbers able to participate. Openness allows learners from developing countries to get access to learning materials and depending on the licenses to reuse or repurpose them.

3.2 Free

MOOCs are free to participate (at least the basic version) allowing participants from developing countries to take part without being driven away by price. However, MOOCs as any other eLearning course require a team including subject experts, learning technologists, and copy editors to create and facilitate it. Thus MOOCs are not 'free' to create or facilitate; hence there is the question of sustainability. Some MOOCs offer 'premium options' for a fee. For example, Coursera offers Signature Track, identity verification and verified certificates for successful participants for a fee ranging from about USD30-90. In order to put this value into perspective, consider an average Congolese participant taking a MOOC. Per capita gross national income of Democratic Republic of Congo is only USD 220 (The World Bank, 2012). Thus a Congolese participant will have to forego nearly 41 per cent of their yearly income to obtain the

certification! However, in a recent blog post Coursera claimed that they have supported 2500 students (as of September 2013) who were unable to pay for Signature Track (Coursera blog, 2013).

3.3 Opportunity

There is an acute shortage of tertiary education places in many parts of the developing world. In India it is estimated that 40 million additional university places will be required by 2025 (Everitt, 2013). Even though many MOOCs are not recognized for college credit at present, there is the potential for them to be recognized, which could mean that at least a proportion of the required additional places could be met with MOOCs. There are many success stories of MOOC learners from developing countries. For example, RiadBakir's story on FutureLearn blog (2014b) shows how he participated in MOOCs from war torn Syria and continued his education.

3.4 Prestige

The prestige of learning in a university in the Western world is another factor that may appeal to participants from developing countries. For example, Usher (2013) claims that: '[i]n Uganda, it's quite possible that a few Coursera certificates, even if they don't add up to a real degree, might in fact be worth more than a degree from Ankole Western University [...] because the prestige of the western universities from which those certificates will come is so much higher than that of the local universities, and will offset the fact that they don't quite add up to a real degree'. Not only the prestige but also the 'high quality' of courses expected/anticipated from world class universities and the desire to experience the teaching from well known subject experts will increase the appeal of MOOCs to participants from developing countries.

4. IMPLICATIONS

4.1 Universities

The role of universities in the wake of MOOCs is a hotly debated topic (The Economist, 2013). While first tier universities offer MOOCs through the well known MOOC platforms, second or third tier universities (even within the developed countries) are not welcomed to offer MOOCs with these platforms. For example, FutureLearn describes their university partners as "the best UK

and international universities". In fact, Sebastian Thrun predicted that '[i]n 50 years, there will be only 10 institutions in the world delivering higher education' (Mosher, 2012). This may seem a threat to most universities including the less known resource constrained universities in the developing world.

MOOCs provide a rich ground for research in educational technology and distance education. Universities in the developing world could use MOOCs to supplement their courses where appropriate; for example such an effort in the US is reported by Bruff, et al (2013). Furthermore, with the development of free MOOC hosting platforms, universities in the developing world can also become creators of content rather than becoming consumers. However, resource limitation can become a serious hindrance in such efforts. It is worthwhile to note that the Open Education Resource (OER) movement has opened doors for universities in developing countries to become knowledge creators. For example, the University of Michigan Medical School and Dental School collaborate with African health science institutions through the African Health OER Network (<http://www.oerafrica.org/>) to develop and distribute health educational materials. Materials on tropical diseases developed in Malawi and Ghana are used in the University of Michigan's medical programmes (Vollmer, 2011). Similarly, collaboration could be an important strategy for the universities in the developing world to explore the opportunities offered by MOOCs.

4.2 Participants

MOOCs offer a wide variety of topics. In some developing countries opportunities to study specialized subject may not be available or places may be limited. For example, in the Sri Lankan state university system university places are allocated according to students' advanced level examination marks (Liyanagunawardena, 2012). Thus even after achieving the top grades students still may not be able to study their preferred subject. MOOCs generally do not impose restrictions on the number of enrolments, anyone interested can join without blocking the chance for another.

Learning in a MOOC may open better job prospects, opportunities for higher education, or opportunities for collaboration for participants from developing countries as they build new networking links.

MOOCs are a good source to continue lifelong learning (Christensen, et al. 2013), especially in the case of developing countries; MOOCs provide a good opportunity for professionals because they are likely to have better access to technologies, skills required to use technology as well as international language skills. For example a recent review of MOOC offerings in health and medicine had shown that MOOCs can be a convenient and economical method of continuing medical education (Liyanagunawardena & Williams, 2014).

5. LEARNER PERSONA ANALYSIS

Personas are a well-established interaction design technique (Cooper, 2004; Pruitt & Grudin, 2003; Pruitt & Adlin, 2006; Lindgren et al, 2007; Long, 2009) that is extensively used in software product development to improve user experience. Personas are fully-developed fictitious profiles or “*hypothetical archetypes*” (Cooper, 2004: p124) of intended users of a system in order to capture behaviours, user expectations and intentions. Although they are imaginary, the user profiles are defined with significant rigor and precision. Developing personas is an iterative process similar to the iterative processes used in software engineering. The more specific the personas are the more effective they are as a design tool. Personas make valuable contributions as communication tools because “the cast of characters becomes a design taxonomy with great power to explain [...] design decisions” (Cooper, 2004: p132). Learner personas are created for intended learner groups for whom a course is designed for in order to verify requirements of the system used and the course developed (For example, DOULS project - Pickering, 2012). Here the authors use persona technique to evaluate the appeal of MOOCs for learners from developing countries.

5.1 Typical Learner Personas

Dian is a 26 year old teacher from Indonesia working in a secondary school equipped with a state of the art computer laboratory. She is keen to improve her knowledge and the course ‘History of Indonesia’ she teaches, she wishes to make it engaging and interesting for the pupils and she is looking for reading materials and case studies. She can manage a conversation in English but she only has a low level of English proficiency. She is embarrassed to say that she does not know how to use a computer.

Raj is a 35 year old Indian information technology professional working in Bangalore for an international IT company. He lives in the city and has high

speed internet access to his home. He has studied in English and very confident in using both English and French, which he learnt from his aunt who lived and worked in France. Though he is currently happy with his job, Raj wants to learn about people management in preparation for a potential opening that is likely to arise in his company in a managerial capacity.

Eric from Burundi is 23 years old and has dropped out of college to find a job because he could not pay the fees. His locality gets electricity three days a week; he does not own a computer nor understand an international language. He took an introductory computer class when he was in school several years ago. But he never had the chance to get hands-on experience using a computer because there were insufficient computers. Eric wants to improve his employability by developing computer skills. But the nearest public library with computer facilities is over 100 miles away (3 hours+ by bus one-way).

Sunil is 65 years old and has retired from his job as the director general of a government department in Sri Lanka. Although his capacity in the government entitled him for a personal laptop at the time, he never turned it on. He had the help of a clever, young personal assistant, who prepared all the documents and spreadsheets. Sunil lives in a small city in the south of Sri Lanka and has just bought a computer and an internet connection to his home. Despite his best efforts even after a week of trying he is still struggling to double click the mouse. Sunil is a competent user of English. He is interested in learning about disaster management having played a major role in the aftermath of the 2004 Tsunami as a government servant.

6. ANALYSIS

Dian wants to learn about history of Indonesia and use material to improve her current course for secondary students. Taking a MOOC to achieve her objectives can be difficult due to several reasons. A course on history can depend on the perspective of the course author. Thus using material developed by a professor from a Western country may not be what is required for her. Even if she manages to find a suitable MOOC, the material could be protected by copyright laws thus prohibiting her using them with her own students. Because Dian is not very competent in English, it could also be difficult for her to translate them sufficiently and accurately to be used by her students. Dian has convenient physical access to the Internet. But because she does not know how to use computers the potential of using a MOOC as a resource is diminished.

Raj is in a much better position with respect to using the Internet. He has ready access, international language competence and digital literacy, which together will allow him to access a suitable MOOC to learn his preferred subject. However, he would still have to critically think before applying Western management practices in an Asian context.

Eric is in a highly disadvantaged position compared to both Dian and Raj. He has neither international language skills nor ready computer access. However, unlike Dian he may be able to use a computer but he has had no chance for hands-on experience. Unless he secures physical access, language access and skills access it is unlikely that Eric will have any chance of studying a MOOC.

Sunil was privileged to have the support of a personal assistant; he may have never felt the need to learn to use the computer. Sunil has invested money in buying a computer with connectivity securing physical access. He could enroll himself in a MOOC and learn from it. But the lack of basic skills in using a computer may hinder his progress.

As shown above, many learners from developing countries lack one or more of the necessary conditions to be successfully participating in a MOOC. For example, from the above considered scenarios only Raj is in a position to take the full advantage of a MOOC; all the others considered lack 'access' of some form. If the MOOC Raj registers in has not considered international learners and have used colloquial language, examples and does not provide 'sufficient' support that is acceptable to Raj, even he may not be able to learn in it. For example, if a MOOC on marketing selected an international business such as Ikea (www.ikea.com), which currently does not have presence in India, to analyse their marketing strategy and 'assumed' the learners knew the business (without providing some background information), it would be difficult for learners like Raj to connect with the course without doing extra work.

7. OPPORTUNITIES AND CHALLENGES

MOOCs face many challenges, especially in the developing world, in providing effective learning opportunities (Liyanagunawardena, Williams & Adams, 2013). Access could be the biggest barrier in the developing world to MOOC participation. Authors' definition of 'access' take a broad view as suggested by van Dijk (2005) and Warschauer (2003) to include full appropriation of digital technology (including motivational access, material access, skills access, usage access and social, cultural and community support).

Some MOOCs use multiple learning spaces, which can be difficult for novice computer users (or even experienced users unless they are familiar with those specific sites) to learn to use for the purpose of the MOOC. Some of the learning spaces commonly used in MOOCs are video sharing sites such as YouTube. However, Liyanagunawardena, et al. (2013) have shown that Sri Lankan students who used communal access centres to access the Internet were barred from using sites such as YouTube suggesting that using communal access centres to participate in MOOCs will be difficult (if not impossible). Furthermore, there have been instances where students registered in a fully online degree programme in Sri Lanka, failed to access the video lectures from internet cafes due to slow download speeds (Liyanagunawardena, 2012). A study that surveyed browser loading time in 12 Asian countries concluded that it was up to four times slower than commonly considered acceptable, with frequent page load failures (Baggaley&Batpurev, 2007). One could argue that these results are historical, but even today there is a large group of people in the developing world with access to the Internet, having difficulties using bandwidth intensive sites. While offering the University of Reading's first MOOC, *Begin Programming: Build Your First Mobile Game (#FLMobiGame)*, through FutureLearn, in October 2013, the authors received a number of requests from learners, especially from African countries, to provide low resolution downloadable videos. A quote from one of the participants read:

"Internet connection is a very big problem when it comes to MOOC's, I take MOOCs a lot from different platforms Coursera, Saylor, EdX, Education-portal.. I had to drop various courses I had eagerly anticipated for [...] This was because the videos were very large[...] I live in Nigeria and internet is very expensive, I just finished secondary school and I can't afford constant internet so I visit the cafe thrice or twice a week to SECRETLY download materials and videos, I don't watch them online as these cafes don't allow downloading. Please help us [by] reduce[ing] the size of these videos."

Only high definition videos were initially allowed in this platform. This shows that MOOC providers should seriously consider the global audience they are catering to when it comes to such decisions.

Information overload in a MOOC can also be a challenge for participants. This becomes even more disturbing for many participants from developing countries studying in a foreign language and likely to have intermittent access to the Internet. The discussion forums on MOOCs grow quickly due to the large number of participants posting around the clock from different time

zones in the World. Considering the case of an undergraduate student described in Liyanagunawardena (2012), who endures two bus-rides taking at least 45 minutes one-way to access the Internet at a communal facility, it is unlikely that this student will be able to access the MOOC materials daily. The level of access could be based on quotas to provide fair access to all the people using the communal service, which could mean that a student relying on communal facilities might not be able to work at the same pace as other students would due to the access restrictions imposed on them. Many MOOCs do allow additional time for completion of assignments; however the MOOC materials are taken down by some providers after a couple of weeks. If the MOOC required a commitment of six to eight hours a week for eight weeks, a participant using communal facilities with a quota of two hours a week will have to spend 24-32 weeks on the MOOC even if they dedicate the whole time at the access centre to the MOOC, which may mean that many participants relying on communal access would not be able to complete them. Many MOOC platforms now allow registered learners to access course materials even after a course had ended; but then a user will only have access to the material as if it were an Open Educational Resource as the cohort of participants had left the course. Some of these participants may have their own computers at home which are not connected. Therefore, as suggested by Liyanagunawardena, Williams and Adams (2013) 'lower resolution versions of videos, facilitating offline "burst connectivity" tools which download the minimum text-only information during connection, allow offline reading and composition of replies and then upload interaction in a second "burst"' could make MOOCs more manageable educational experience for participants from developing countries.

Language and culture can also pose a challenge to learners from developing countries. Many in these parts of the world would not have access to MOOCs due to them lacking competence in international languages. But those who are able to participate would also find it difficult if the programmes are not designed considering a global audience, for example the use of slang or colloquial language and/or using context specific examples would make them alienated in the course. On the other hand, there can be various cultural values upheld by different participants. There will also be different interests of current cultural issues that participants would want to engage in. For example, while a MOOC on 'Child Obesity' would be of great interest to the people from many developed countries, such as the US or the UK, where child obesity is becoming an increasing concern, for many people in developing countries, where malnutrition is prevalent, it is irrelevant¹. A more culturally inclusive and global oriented programme would discuss issues surrounding child

nutrition around the world. The cultural diversity could also mean that some participants from high power distance societies may find it difficult to adjust the learning style of connectivist pedagogy that is evident in some MOOCs. The course “Understanding the Ebola Virus and How You Can Avoid It” offered by ALISON platform (<http://alison.com>) is a quick response to provide a free awareness course that would be of great use to African countries battling with the epidemic. Thus it can be seen that increasingly the needs of developing countries are also acknowledged in the offerings.

MOOCs are largely produced by the English speaking professors in the West. Many countries in Asia and Africa had already inherited their colonial occupier’s educational systems as the governments that have come to power since independence have adapted the existing system rather than replacing it to bring in the traditional systems of their countries. For example, many African countries including Cote d’Ivoire, Mozambique, Cape Verde, Sao Tome and Principe do not use local languages for instruction in Education (at any level) (Bamgbose, 2004) and adopt the colonial occupier’s language as the medium of instruction. On top of that accepting MOOCs as they are, would increase the likelihood of Western views being imposed on learners from other parts of the world possibly reversing the effects of post-colonial movements. This becomes even more disturbing for subjects such as History, where the story teller’s view gets accepted due to the lack of availability of materials to crosscheck or validate other claims. However, after analysing five Coursera MOOCs, Nkuyubwatsi (2014) shows that the lack of cultural translation (practices that enable contextualisation) was an issue of course design rather than a typical feature of MOOCs, which suggests that with good design MOOCs can be culturally inclusive.

Many MOOCs promote networked learning; however, some participants may not be familiar or mature enough to gain full advantage of MOOCs with the available level of facilitator support. In Sri Lankan state universities students in higher levels support students in lower levels just before their exams; students who never turn up for lectures would not miss these classes called ‘Kuppiya’² for any reason (First author’s personal experience). As discussed already, MOOC+ can be considered a model that resembles this familiar concept and could work for participants who need more support to learn in a MOOC.

The recent difficulties of Udacity (www.udacity.com), which was one of the major MOOC platforms (Lodge, 2013) shows a major challenge - sustainability of MOOCs. Accreditation and methods of learner support for the mass classes

are some of the other challenges that remain.

Despite MOOCs so far being dominated by Western scholars, with the introduction of open MOOC platforms, scholars from developing countries can also create and disseminate knowledge to a global audience. There are many success stories of OERs developed by scholars in the developing world (<http://www.ocwconsortium.org/>) such as the examples of OER in Health Remixes from the African Health OER Network. Similarly, MOOCs could also be used as a tool to disseminate knowledge produced in the developing countries.

According to ITU (2013) 31% of the population in the developing countries and 77% in the developed world have access to the internet. Furthermore, the report shows that Africa has the highest growing mobile broadband growth in the world increasing penetration rates from 2% in 2010 to 11% in 2013. Coupled with the high mobile-cellular penetration in the developing countries (89%) indicate that online education is not an 'impossible' task to achieve. However, ITU report (2013) further shows that mobile broadband services are much more expensive in the developing countries and 'remains largely unaffordable in Africa' (p7). Thus an informed adaptation in MOOCs to facilitate access to learners from developing countries would indeed be a positive effort toward the use of MOOCs in those parts of the world.

8 CONCLUSION

Within a reasonably short period of time Massive Open Online Courses have become widely popular despite there being continued debate about accreditation and certification. MOOCs allow participants to engage in a learning environment with 'no strings attached'. At the same time this 'feature' may contribute to massive numbers not completing the courses. The analysis of typical learner personas of learners from developing countries have shown that in their current form MOOCs may pose a huge challenge in reaching people from the developing world.

Universities in the developing world face challenges with the rise of MOOCs. However, the opportunities offered by MOOCs could be used to strengthen the offerings of such universities. The likelihood of availability of free platforms to offer MOOCs will provide an opportunity for these universities who have not been 'selected' to offer their courses through existing MOOC platforms.

There is overwhelming evidence to suggest that learners from the developing world are struggling to cope with MOOCs due to 'access' issues. Here 'access' take a broad view to include full appropriation of digital technology. The successful use of OERs to disseminate knowledge produced in the developing world indicates that universities in the developing world could in fact use free MOOC platforms to their advantage; though there are questions about sustainability. Rapid growth of digital networks around the world, especially in the developing parts of the world, suggests that online learning is likely to be more accessible to learners. Nevertheless, providers should be supportive of learners from developing countries by offering the option to work offline with low resolution downloadable content because of the staggering cost of data connectivity experienced by their participants.

Notes

1. According to the World Food Programme (<http://www.wfp.org/hunger/stats>) '[o]ne out of six children - roughly 100 million - in developing countries is underweight'
2. Kuppiya is the Sinhala word for a tiny bottle. The naming of this class follows from the fact that able students who possess barrels of knowledge shares/ gives out some of their knowledge (in tiny bottles) to those who are less able so that they are able to pass the examinations. These are generally conducted in the local language unlike the formal lectures in the University, which are conducted in English.

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