African Libraries –The Possibilities and Challenges of MOOCs

Nkem Osuigwe (Ph.D) *CLN*
(Director Nigerian Book Foundation Awka)
email:drnkemosuigwe@gmail.com

Abstract

Technology is changing the teaching and learning environment.The current large numbers and continuing widespread of Massive Open Online Courses (MOOCs) as well as the interest it has sparked globally has created challenges and opportunities never imagined for the education sector more especially for higher education. African countries need to diversify their resource base and key into the knowledge economy as advanced nations have done. MOOCs could assist in the socio-economic development of Africa by providing access to knowledge and training that will enable those that cannot afford regular higher education as well as those that left school more than a decade ago to successfully play tangible roles in the knowledge economy. The Library is an integral part of the tertiary institutions. Libraries and MOOCs intersect at an ethical point - they both provide free and open access to learning resources and learning opportunities that many may not otherwise have. Content development for the lectures, support for participants and preservation of the resources were some of the identified areas where libraries could play important roles in the propagation of MOOCs.These, form the focus of this paper as well as the next step librarians could take to explore the possibilities of MOOCs.

Keyword:MOOC's in Libraries. Digital Skills, Information Literacy. Blended Learning, Open university, Copyright Issues.

Introduction

The digital age has engendered disruptive technological changes in information creation and dissemination which have created new scenarios in 21st century teaching and learning environment. Outside of the face-to-face classroom interactions, there had always been distance education. Correspondence studies were highly used in the early 60's and 70's in African countries such as Nigeria and Ghana to help those who needed to get higher qualifications but had no time or opportunity for regular studies. The media for these correspondence courses were later transformed into radio, television and video classes (Ajadi, Salawu and Adeoye, 2008). The Open University which took off in 1969 in the United Kingdom fused correspondence classes, radio and television broadcast instructions, online interactions and short period face-to-face lessons. It gave more people access to distant learning environment (Mandelson, 2009). This model of distance education has been adopted by the National Open University of Nigeria (NOUN).

Evolving technologies have made possible a digital, networked world where anyone can access massive amount of information online as well as belong to virtual communities with others who have common interests. This has brought enormous transformations in teaching and learning experiences. In the year 2004, Apple opened **iTunes U** as a repository and by 2006 the platform was offering pre-recorded video and audio lectures and presentations from tertiary institutions, libraries and museums (Miller, 2014). By 2008, Stephen Downes and George Siemens opened the registration of a Learning Theory course –**'Connectivism and Connective Knowledge/2008' (CCK8)** in the University of Manitoba, Canada for anyone with Internet connection. The registration for the course grew from a paltry 25 students to more than 2,300 registrants from all over the world. It became clear that online platforms could be used for educational instructions (Becker. 2013).Currently, distant

learning tools, solutions, packages an platforms are rapidly growing (Steinberg, 2013).

Thus, massive open online courses (MOOCs)developed from that experience and presently large numbers of people geographically dispersed all over the world can easily access educational and skill learning courses through the Internet from a source with Blackboard-like forums and interactive participatory assignments. While OpenCourseWare is made up of quality course lectures or tutorials produced by universities and freely available online under Creative Commons, MOOCs goes on further to make available on the Internet, complete courses with video instructions, quizzes, grading, evaluations and the creation of forums to encourage engagement among the course participants themselves and with the lecturers (Open Education Consortium(2015).

Concept of MOOCs

From relatively small beginnings, MOOCs has flourished into an endemic phenomenon of the 21st century. Within a period of one year, between 2012 and 2013, Coursera, a*for-profit company* witnessed above 100% growth as registrations swelled from 300,000 for 7 courses to more than 4million for 453 courses. Coursera is one of the biggest MOOCs providers, it normally signs contracts with institutions (such as Universities) that acquiesce to use the platform to offer free courses to people all over the world and to get a percentage of revenue (Kendrick and Gashurov, 2013).Initially, MOOCs focused on STEM subject areas but they are now spreading into other academic subjects and acquisition of soft skills; as moreMOOCs providers such as Udacity, MITx, edX, and others spring up (Butler, 2012).

MOOCs are still evolving but generally they are categorised into cMOOCs and xMOOCs. According to Bates (2014), cMOOCs highlights autonomy of learning and knowledge creation by students while the xMOOCs relies more on specially designed platform software to reach a greater number of people, uses video lectures, interactive sessions, peer assessment and online tools that assist the learning experience. Furthermore, cMOOCs operate from the viewpoint of Connectivism which stresses networking and knowledge sharing and where participants use platforms such as blogs, wikis and the social media to form learning communities. xMOOCs is built around the traditional classroom structure whereby learning is centred around pre-recorded videos, quizzes, tests and also peer assessments all driven by the instructors and not the participants themselves. The two types do not have any inbuilt academic support infrastructure as they do not have access to library collections of institutions of the creators of the courses (Touro College, 2013).

MOOCs provide education 'without boundaries' as everyone taking the courses can connect and share from any part of the globe irrespective of geographical or cultural differences. Varied media and online tools such as video lectures, online discussion boards, blogs, wikis, Twitter, Google Hangouts, Google+ and Facebook amongst others are used by operators and students of MOOCs to teach, interact and learn alongside others. Evaluation of registrants at the end of courses is done through assignments which are completed asynchronously, essays which are often assessed by co-participants while a few write examinations (Kazakoff-Lane, 2014).

MOOCs propagate creative and sustainable online learning communities. Nevertheless, two areas differentiate MOOCs from other online courses – the sheer size of participants in any single course and the open enrolment policies. Initially, MOOCs were driven by connectivist principles that stress informal curriculum and 'learning autonomy' through interactions, knowledge sharing and networking with peers which creates more knowledge. However presently, it does appear as if it is fully integrating instructivist practices of traditional classroom

structure with instructor-led lectures, networking and interactions in different types of media (Faulkner, 2015).

MOOCs spread from the most elite universities such as Harvard and Stanford universities, who use their open-source courses as a means of helping students succeed in basic classes for their degree programmes (Kendrick and Gashurov, 2013). MOOCs give students the opportunity to take ownership of their own learning by advancing in any of the chosen courses at their own pace. It also encourages peer-to-peer learning. Furthermore, the openness and availability of MOOCs for career development purposes endears it to many (Bayeck, 2016).

Despite the fact that MOOCs appear to democratize education as it assists those who yearn for further professional development, that is those who cannot afford to pay the fees to learn 21st century workforce skills; it is yet to gain mainstream academic legitimacy and is still viewed by some to be a fleeting phenomenon that will eventually fade away. Nonetheless, the current large number and continuing widespread of massive open online courses (MOOCs) as well as the interest it has sparked globally have created challenges and opportunities never imagined for the education sector all over the world(Schwartz, 2013; Chant, 2013).

MOOCs in Africa

Many African universities practice web-facilitated teaching whereby course syllabi, outlines, course descriptions and assignments are put on the websites of the institutions. However, in 2012, **Witswatersrand University, Johannesburg (Witwatersrand, 2017) became the first tertiary institution in Africa to offer short online courses and entire online degrees as MOOCs on edX,** a Harvard University and the Massachusetts Institute of Technology online learning platform. However, the OER (Open Education Resources) Portal of the National Open University of Nigeria (NOUN) and the New Economy Skills for Africa Program: Information and Communication Technologies (NESAP-ICT) programmes are regarded as harbingers of MOOCs in Africa. To promote open and online tertiary education, NOUN offers three courses online through the OER Portal namely viz *History* and *Philosophy of Science, Study Skills, and Information Literacy*. The courses are for secondary school leavers who are yet to gain admission into tertiary institutions. NESAP-ICT supports SMART (Software, Mobile Applications, Research and Technology) Knowledge Hubs in Tanzania as precursors for introduction of online courses for higher education (Marshall, 2016).

Nevertheless, the non-development of a workable model for accreditation of MOOCs in African tertiary institutions, (its focus on courses rather than on programmes) and the fact that Africans value formal degrees rather than a string of MOOCs courses that could better equip one for the 21st century workplace are factors militating against the fast adoption of the phenomenon. Added to this is the problem of poor Internet bandwidth, penetration and speed, non-availability of local content in electronic formats, low access to computers by many, and unstable power supply among other factors. All these could be adjudged to be detrimental to the thriving of MOOCs in a developing country like Nigeria.

All these notwithstanding, MOOCs have been adjudged to be an affordable way of acquiring post-secondary school education and 'in service' training for workers in the developing countries. They are intended for mass enrolment with usually no tuition required from the students and this should be attractive to stakeholders in the education sector of developing countries (Liyanagunawardena, Adams and Williams, 2013). Furthermore, Nigeria's population growth and dwindling financial resources work against the provision of more educational

infrastructure in tertiary institutions. MOOC as an educational model eliminates the need for costly tertiary education infrastructures such as large lecture theatres, hostel accommodation for students and transportation facilities. It also charges low tuition fees which can be waived if the participant declines to apply for a certificate (Oyo and Kalema, 2014).

African countries need to diversify their resource bases and key into the knowledge economy as advanced nations have done. Access to knowledge and training that will enable people especially those that left school more than a decade ago to successfully play tangible roles in the knowledge economy is a huge challenge. MOOCs could bridge this gap, thus assist in the socio-economic development of the African continent. The institution of MOOCs platforms in African universities will encourage skill building in the development of digital technologies for online courses and introduction of more web-facilitated courses in many universities (Global Statement, 2014).

Libraries provide the platform for learning and connecting people with information. Since people are learning through MOOCs, libraries need to partner with this new-fangled educational platform that is steadily becoming pervasive (Almeida, 2013). Internet and digital technologies have interconnected the entire world. MOOCs might represent the future paths that tertiary education could eventually tread in developing countries. Librarians, especially academic librarians in a country such as Nigerian need to clearly understand their roles as well as the challenges and opportunities that this phenomenon offers as it continues to gain wide acceptability globally.

MOOCs and Libraries

Libraries and MOOCs intersect at an ethical point. To a large extent, they both provide free and open access to learning resources and learning opportunities that many may not otherwise have (Signorelli and Hovious, 2014).Thus, numerous possibilities and challenges exist of the definitive role the library can play in propagating MOOCs - from content development for the lectures, support for participants and preservation of the resources. They include:

1. **Copyright Issues**

In a quest to further get entangled with MOOCs and the various chances it provides for libraries, note must be taken of copyright and intellectual management issues. Libraries are non-profit and educational institutions; thus they are covered under the *Fair Use Principle* in Copyright Act. This principle entitles them (libraries) to reasonable, free and fair use of the intellectual property of authors and other type of creators (NOLO. 2010). However, this does not cover the use of information resources from libraries for MOOCs as it amounts to using the intellectual property rights of others for real and proposed profit making. Thus, academic libraries in particular need to guide the faculty on the provisions of copyright laws as it pertains to fair-use and digital content in MOOCs (Thampapillai, 2013).

Librarians can help content producers of MOOCs navigate copyright issues in an increasingly complex online landscape. Generally, copyright consists of a two-pronged collection of mandatory legal privileges allocated to authors in most countries – moral rights which entitles an author to be fully (right of attribution) and properly acknowledged (right of integrity) whenever his work is cited or used and exploited for economic rights. Even when the copyright of a work is transferred from an author to the publisher, the moral rights remain respected. When a work is republished and redistributed by someone other than the publisher; it may result to copyright infringement (Hirtle, 2013).

As widely acknowledged by international agreements, the legal rights to exploit through use, re-use (including adaptations) of intellectual works are really the crux of copyright issues as the copyright holder has

the sole right to make or consent to the creation of such copies. Creating a copy without the permission of the holder infringes upon the copyright, unless allowed by an exception to or limitation on the reproduction right (Loren, 2000).Traditionally copyright is transferred from the author(s) to the publisher in academic publishing. Nevertheless, the Open Access environment has enabled new concepts of copyright as an author may decide to retain the copyright, or share it with Creative Commons Licences or even transfer the rights of exploitation to the publisher.

The open nature of MOOCs appears to have overturned the copyright provisions underpinning modern education (Ehlers, 2011). Teachers in physical classrooms have the right to use resources in instructing students. This provision however, does not extend to the use of such resources in open and online environments which expose such materials to copyright infringement risks (Malicke, 2015). Again, the global nature of MOOCs, makes the system prone to difficulties with copyright provisions. This is because, third-party content permissions vary greatly from country to country and as participants are geographically widely distributed and cuts across diverse country borders; this poses a great problem (Marshall, 2013).

According to Haggard (2013), MOOCs are sitting on gunpowder of copyright and ownership issues as digital content in various media contributed by many in and out of classrooms are remixed by teachers, students, publishers and software producers are distributed globally through the online courses. Librarians need to explore and identify information resources that have open licenses that allow free use, adaptation and wide distribution. Again, librarians need to lead teachers in hyper linking, or embedding copyrighted sources. Also, if an institution is a major producer of MOOCs courses, librarians there will need to get involved in the production and/or provision of ancillary information materials in different formats taking care not to infringe on the rights of the owners of content such as pictures, video clips, slides, audio recordings and animations. Navigating the present-day copyright provisions and determining how well they cover all bases in an increasingly digital and open learning environment is a huge challenge for librarians.

2. Digital Skills

Participation in MOOCs requires digital literacy skills beyond the basics. Registrants need to know how to do academic work not just on computers but online. They need to know, and learn how to successfully engage in interactive activities and use learning tools online. Libraries all over the globe teach these. Intervention in African public libraries by foreign donors is almost tied to the teaching of digital literacy skills as necessary survival tools in the 21st century. Examples abound of public libraries offering digital literacy classes. Also academic libraries have long moved from teaching mere *Use of Libraries* in GS courses to instructing students on computer use, how to access and evaluate online academic materials amongst other skills. Again, it should not be taken for granted that every teacher in the tertiary institution has sufficient digital skills to create and propagate content online.

Librarians will need to vigorously ascertain the skill set of lecturers to determine how comfortable they are with digital tools and their readiness to learn more.

Librarians' guide on digital literacy skills to be applied in assessing courses and interactive forums online could also be embedded with the instructions of the teachers in the online environment. MOOCs present new opportunities for librarians as their help is needed to sort out information materials and provide links to resources for additional reading for the participants considering the enormous information resources in libraries' owned and licensed digital repositories. For those who are taking courses, the librarian may also play the role of information guides as the participants

get help matching the course catalogue with available information resources (Mune, 2015).

3. Information Literacy

MOOCs operators may want to downplay the issue of information literacy on two premises. First, it has been observed that many participants are not new to learning and already have a certificate or a degree. The assumption is that they have learnt the basics of seeking, acquiring, evaluating and using information (Signorelli and Hovious, 2014). The second assumption is that *the possession of digital skills is enough for participants in the courses. However, the rising cases of plagiarism in the online environment, the disparate knowledge of use of information by the participants has made it necessary for librarians to push for the embedding of information literacy tutorials in the course modules (Gore, 2014).*

Integrating information literacy tutorials into MOOCs could prove to be a major challenge for librarians. MOOCs are usually hosted by third-party platforms who use course management systems such as Blackboard for posting of lectures and assignments and hosting of interactions. The 'Ask a Librarian' configuration usually featured in a University's website is not easily moved to these platforms. Consequently, embedding information literacy content for MOOCs will most likely require preparing the tutorial for multiple online environments (Wright, 2013).

4. Blended Learning Experiences

MOOCs' lessons, lectures, assignments, gradings and interactions are all done online. Africa is bedevilled by slow Internet with no connection at all in some rural areas. Libraries may consider how to provide offline access to MOOCs participants. Libraries could partner with the providers of the services to store the lectures, assignments and grading processes in their servers. Libraries could then schedule when such courses could be available offline to the participants. However, the probability exists that many of these participants may not be students and as such may not have library cards! Configuring usage of the library facilities by non-registered MOOCs participants might be a huge challenge.

Also, one of the challenges of MOOCs is the high drop-out rate and the fact that participants with poor educational backgrounds may find it difficult coping with the lessons in the absence of considerable teacher-inputs. Librarians have always helped people gain literacy skills. They could assist such participants by creating blended learning experiences of 'flipped classrooms' for them in the library. Blended learning is a combination of traditional classroom learning and online learning. This mode of instruction allows students to pace their learning experiences themselves. The flipped classroom is a type of blended learning that gives students the opportunity to watch pre-recorded videos of their lectures outside of the classroom and then hold discussions and work on projects, assignments on what they have watched when they now gather for classes (Tucker, 2013; Educause, 2012). Libraries could provide and help the MOOCs participants understand the lecture videos as well as the spaces for them to meet, discuss, interact and do their group projects and assignments together. Libraries really have crucial roles to play in the propagation of MOOCs in tertiary institutions.

5. Preservation

MOOCS has peculiar challenges on preservation of information resources. For example, course mates can see what others are sharing online and sometimes the public too. A class discussion on Google Hangouts can be shared as tweets on Twitter where non-participants can join the discussion and re-share on other online platforms. Libraries that wish to store the courses for offline access or for posterity purposes might run into problems of determining where to draw the line in collating such shared, re-mixed and re-shared materials. Librarians might have to draw up guidelines to deal with the preservation of information

materials created by MOOCs participants

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6. Privacy Concerns

Libraries protect the privacy of their clientele. The MOOCs environment exposes the privacy of participants. As MOOCs participants click on links, use information resources online, do assignments, interact and engage with one another, MOOCs collect, merge and aggregate volumes of information about them. Education records including the level of performance, email addresses, birthdays as well as how, when, and where a student clicks from each time he logs in are all collected by MOOCs operators. Such data may be regarded as trivial but they could be mined and used for mapping trends and reveal correlations on different levels and aspects (Young, 2015). This could have a backlash and pose a great challenge for libraries who would want to use their facilities for MOOCs participants as they are duty and legally bound to protect the privacy of their users

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Next Step for Librarians…

- The most important step for every librarian to take is to sign up for a MOOCs course! Gain the experience of how the courses are run and the digital skills that students are expected to have. This will provide clear learning experiences that will be useful in exploiting the opportunities and meeting the challenges of MOOCs.
- The next step is to start conversations about MOOCs within the Library. Get every staff or most staff to reach an understanding that despite the challenges, the possibilities are very high for MOOCs taking root in Africa and subsequently in Nigeria. Considering the fact that Nigerian universities engage their students online at various levels already, the Library could prepare an objective position paper outlining the prospects and challenges of expanding such interactions to include MOOCs.
- Engage faculty members in conversations about online learning – its possibilities and challenges. This will guarantee the Library a place on the table as decisions are taken by MOOCs sooner or later in the institution.
- Explore avenues and experiment with the possibility of the library developing and offering information literacy as an online course for first year students. This will 'build the muscles' of the librarians in the areas of skills and processes for engaging in MOOCs.

Conclusion

Despite the fact that MOOCs may eventually prove to be a fad or a trend, it presents a new window of opportunities for librarians to help drive the knowledge economy. The coming on stream of MOOCs will also provide a platform for librarians to showcase their increased relevance in the academia as they lead and provide direction to university administrators, faculty, and students on trends in tertiary education. MOOCs also offer new challenges to librarians to keep in step with evolving technologies so that they can help university teachers and students gain more information and learning interactions/experiences as they migrate online.

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