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MOOCs and the Future of Higher Education

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Abstract

Openness will significantly play an important role in driving innovation in education and in the development of higher education. The teaching cycle may also be opened up by open courses, like MOOCs. Since 2008, MOOCs have been the top issue of higher education worldwide. Frankly speaking, the pros and cons of getting into MOOC-based education are evident. Via literature review and MOOC-related websites, MOOC instructional methods, MOOC platform functions, MOOC growth, and MOOC future are summarized, analyzed, and discussed on the pedagogy dimension. Some suggestions for the performance of the MOOCs are suggested based on the study. This paper reviews the current status of MOOCs in higher education, theoretical frameworks behind the pedagogical methodology implemented in MOOCs, and education work relating to developing, implementing, function of MOOCs in higher education promotion, assessing MOOCs and proposing consequences and conclusion for MOOC operations.

Keywords: *Open Education, MOOCs, e-learning, higher education, Globalization,* Sustainability, Credit and Assessment.

Introduction

Massive Open Online Courses (MOOCs) have recently received a great deal of attention from the media, entrepreneurial vendors, education professionals and technologically literate sections of the public. The promise of MOOCs is that they will provide free access, cutting edge courses that could drive down the cost of university-level education and potentially disrupt the existing models of higher education (HE). Following on from the development of Open Education Resources and the Open Education movement (Yuan & Powell, 2008), the term Massive Open Online Courses (MOOCs) was first introduced in 2008 by Dave Cormier to describe Siemens and Downes' "Connectivism and Connective Knowledge" course. This online course was initially designed for a group of twenty-five enrolled, fee-paying students to study for credit and at the same time was opened to registered only learners. MOOCs were at a furious pace over the last few years. MOOCs are a new type of e-learning program, consisting of short video tutorials, computer-graded exams, and discussion forums online. They are usually at no charge and sometimes at a fee. Despite widespread adoption, however, MOOCs ' instructional content and business model remain under the mark (Wan Kim, 2016). MOOCs have been positioned as hybrids of previous attempts at online distance learning opportunities, such as Open Coursewares (OCWs) and Open Educational Resources (OERs) (Gillani & Eynon, 2014). There was a strong need for appropriate training and business strategies for the use and implementation of MOOCs in higher education. Since 2008, MOOCs for higher education have expanded rapidly in the USA, Europe

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Asia-Oceania, etc.Cousera and edX in the USA, FutureLearn (Germany), MiriadaX (Spain) in Europe, KMOOC (Korea), and OpenLearning (Australia) in Asia-Ocea (Wan Kim, 2016). The number of students who signed up for at least one course in 2015 reached 35 million, which is over an additional 16–18 million from the previous year (ICEF). MOOCs promise free tuition, unrestricted engagement and open access for anyone. That is, they're trying to democratize education. Registered learners, who seem young, diverse and non-traditional, are free to take part in the lectures given online by renowned professors at top universities.MOOC supporters see them as a way to democratize access to education and as promising new insights into teaching and learning from analytics for tens of thousands to millions of students (Picciano, 2012; Siemens & Long, 2011).Several people are certain that MOOCs can reduce the teaching costs and from an economic perspective they are successful. Second, many universities around the world were rushing to join MOOC's new movement (Wan Kim, 2016).Similar to other top-leading universities they did not want to be left behind themselves. Governments from many countries are eager to take part in the MOOC paradigm shift. The original goal of MOOCs was to open up education and grant as many students as possible free access to university level education. Unlike traditional online courses at universities, MOOCs have two key features: 1.Open access-anyone free to take part in an online course. 2. Scalability-courses are designed to support the number of participants indefinitely. However, the different MOOC providers may interpret these features differently; some MOOCs are massive but not open and some are open but not massive.Wiley (2012) noted that the ambiguities in the MOOCs definition may pose a threat to the future development of open educational resources and open courses where it is good enough for the general public to consider ' free ' and nobody will worry about ' open'. This raises questions about the licensing and permissions of the current MOOC provision, and how it relates to the OER community's creative commons licenses.

Breslow Pritchard, De Boer, Stump, Ho and Seaton (2013) advised researchers to take advantage of the enormous amount of data generated by MOOCs to identify in more detail what contributes to and constrains the learning of the students. Kizilcec, Piech & Schneider(2013)The ability to track how often and with which aspects of the MOOC engages individuals has allowed studies to identify learners based on their engagement patterns with MOOC features.(Breslow, Pritchard, Deboer, Stump, Ho, & Seaton, 2013; Jordan, 2014) Much of learner behavior study has focused on trying to explain the low rate of completion that current estimates are below 10 per cent. (Breslow, Pritchard, Deboer, Stump, Ho, & Seaton, 2013; Guo&Reinecke, 2014; Kizilcec, Piech& Schneider,2013) Studies have explored the role that the educational background, gender and geographic location of the participants play in their continued involvement in a MOOC (Gillani& Eynon,2014). While further research has investigated the correlation between the quality of the involvement of learners in online discussion forums and the completion rates.(McAuley ,Stewart, Cormier, & Siemens 2010)The pedagogical model that drives the initial development of MOOCs aimed at integrating high levels of learner control, rates, Offering synchronous, real-time sessions with facilitators and other speakers, providing a digital artifact summing up course activities such as blog posts for participants, Online dialogue, external tools, the development of complex social systems as a means of organizing and collaborating participants and the crucial importance given to formation in the learning process. Further, the early MOOCs were designed to be tuition-free, openly accessible courses that did not generally incorporate or grading (Levy, 2011). The key point is that various stakeholders and interest groups have quite different reasons for promoting MOOCs and the opening up of the educational agenda must therefore be seen alongside powerful forces that see online learning as a means of intellectual development, of enhancing self-esteem, increased competition between institutions, introduction of new business models with reduced public funding for universities and development of a global digital market for higher education (Brown, Costello, Donlon&Giolla-Mhichil, 2015).

Function of Moocs in promoting higher education

Movements towards Open Education:The advent of developments in the MOOC model shows a convergence of interests in the social, economic and technological advancement of education in a global context.Open education has the potential to play an important role in ensuring access to education for all and addressing the issues and challenges of an ever-changing environment that will need new ways of providing and accessing HE in the future, including

1. Globalization and the increasing impetus for higher education internationalization
2. Global growth and increasing demand for access to higher education, with the expectation that by 2020, 120 million students will be present worldwide.

3. The changing demographics of learners, perceptions and expectations of the dramatically increasing number of lifelong learners
4. Extremely increased access to personal and social media technologies
5. The need for cost, affordability and economic models to change for higher education

Therefore, new business models and advances in higher education are urgently needed in order to address the demands of social and economic change over the longer term. For example, the EU funded TEL-Map project (TEL-Map, 2012) created four models for future higher education in the UK, namely the University model, the Modern University model, the Hybrid University model and the Online University model. The vision for Online Universities reflects a prospect of higher education transparency. Competition between universities in this situation, with increasingly differentiated and creative use of technology, provides a wide range of open educational provision. Students undergo largely independent research with free courses in this model, and pay-for academic tests for degrees awarded when they feel ready to take them. Within the open education movement, this new paradigm opens up opportunities for sharing ideas, collaborating locally and internationally between schools, educators and learners, and promoting a more active participation in teaching and learning. There are a variety of similar facets of transparency in various areas, such as the ones highlighted.

- Open Platform: supports a dynamic and collaborative open education environment through the creation and maintenance of an engaging, intuitive, and secure user interface for educators and learners. Cloud–based provision and the use of open standards makes it easier for different platforms and services to exchange information and data.
- Open Curriculum: The learners combine educational resources, events and/or packages to satisfy their needs for various disciplines. It puts learners in control of their own learning and ensures they know what they need to satisfy their personal interests and needs.
- Open Learning: Throughout the learning process, instructors, experts and/or peers can produce and exchange new ideas and understandings through different activities. It provides opportunities for self-determined, independent, and self-guided learning for learners.
- Open Assessment: : Instead of a "monopoly" on the formal evaluation of learning outcomes, traditionally conducted by certified educators, assessment of what learners have learned is carried out by their teachers, others and peers during the learning process through peer-to-peer or crowd-sourced learner accreditation.

MOOCS brings new opportunities for innovation in HE that will not only support institutions to implement the fundamental values of university-based education but it will also shift the focus from traditional lecturing to more learner centered learning in higher education. Higher education is now going through a time of profound change around the world. HE funding costs have become a regional policy priority with most governments searching for alternative funding mechanisms, reducing costs and increasing teaching and learning quality.There is considerable momentum behind the concept of free and open access to high-quality university learning, and content and courses are likely to continue to be promoted resulting in more MOOCs and other forms of open approaches to education emerging. However, there is also a need to rethink the current structures and policies of higher education which hinder innovation. In response to current developments in MOOCs and open education in HE, three key areas have become the policy concerns and debates: funding for higher education institutions; provision of degrees; and quality assurance. The Current HE funding model has been seen as a major obstacle to the exploration of new business models and creative solutions within organizations (Christensen, 2003).

Implications for Higher Education Institutions

The emergence of new models of educational delivery including the rapid development of MOOCs is another source of strain on traditional HE institutions, but also provides opportunities for those institutions capable of changing and developing new supply.This requires institutions to address strategic issues related to online learning, and where the various innovations such as MOOCs fit within their activities. It is a mistake to see MOOCs as an isolated issue on which policy and strategic decisions need to be made, as they form part of a wider HE change landscape which includes the creation of open education.It can be argued that MOOCs have the potential to have an impact on higher education in two ways: enhancing teaching; and encouraging institutions to establish distinctive missions which include transparency and access considerations for different student groups.MOOCs also provide organizations with a forum for creative and innovative thinking and for developing in their delivery new pedagogical practices, business models and flexible learning paths. This will provide educators with opportunities to share and

engage in courses conducted by follow-up educators from different institutions and countries to discuss the advantages and disadvantages of different pedagogical methods in different learning environments and enrich the experience of learners through the involvement of other experts in their course. Most HEInstitutions will be forced to pursue new business models that offer online education at lower costs and extend their breadth of provision for both strategic and learner-related reasons. Institutions will need to assess their strengths and develop a strategic plan for making the most of campus and online education by providing MOOCs or other open education initiatives.Universities and colleges will need to rethink how to make their curriculum delivery models and courses truly flexible and accessible, with the popularity of MOOCs. Several HE Institutions have been seeking to make learning more flexible with modular course design and bankable credits to enable learners to research at a time and peace that suits their own needs. Open courses based on new structures, ways of working or the use of technology can make higher education more cost-effective and accessible, and can also help balance work, family and social life. In addition to their classes and schools, learners have access to a variety of non-traditional learning models through access to courses and resources to self-direct their own learning. More versatile models and transparent strategies will enable more mature students to participate and receive qualifications in higher education.

MOOCs: Issues and challenges

The focus on hyperbole surrounding MOOCs has raised many concerns and criticisms in educational forums.This segment discusses issues related to sustainability pedagogical problems, efficiency and completion rates, as well as granting MOOCs HE credit.

Sustainability

The global e-learning market will hit $107 billion by 2015 according to Global Industry Analysts (2010). But how the MOOC approach to online education can make money isn't entirely clear.Many MOOC start-ups do not seem to have clear business strategies and follow Silicon Valley start-ups ' common approach by building up quickly and then thinking about revenue streams.For MOOCs, most participating institutions have opted not to give certificates for these courses as part of traditional prizes, possibly due to concerns about the content of the courses and the downside risks posed to their branding. If universities started charging tuition fees for their courses, it would also be against the initial ideals of MOOCs.Many institutions participating in MOOCs therefore consider that the courses they offer are currently a branding and marketing activity

Pedagogy

There are two issues for MOOCs as regards pedagogy:

1. Will MOOCs pursue a sound pedagogical and organizational approach to online learning which will lead to better student outcomes and experiences?, and
2. What new pedagogies and organizational structures might be required to provide a high-quality learning experience to MOOC?

MOOCs have been criticized for adopting a model of knowledge transfer; in essence, they are considered traditional teacher-centered instruction enriched with technology (Larry, 2012).These systems provide an individualized experience in allowing students to take alternative routes via material and provide automated input.We do not, however, deliver a social learning experience or one of being directly dealt with. By contrast, MOOCs offer great opportunities for non-traditional forms of approaches to teaching and learner-centered pedagogy where students learn from each other. The ' crowd-source ' of online communities' addresses questions, building networks that spread learning in ways that rarely occur in traditional university classrooms.

Quality and Rates to Complete

A big concern for HEIs is the issue of quality assurance in MOOCs. In most cases, MOOCs lack structure as opposed to other online courses, and seldom include the professor or teacher's central role. MOOCs ' open nature generates a community that is self-selected to be active and excited by that approach to learning. MOOCs require a certain level of digital literacy from the participants which has raised concerns about inclusiveness and access equality. Usually the structured quality assurance for MOOCs appears to be weak. It was suggested that one approach might be for learners and educators to evaluate them, leading to league tables which rank the courses by the quality of the offer(Daniel, 2012). For MOOCs, the most critical method of quality assurance and enhancement is the reflection and informal assessment of enthusiasts who put on social media courses and feedback from social media participants. In this way, courses from institutions and individuals who score poorly may either disappear due to lack of demand or survive by improving the quality of the course in response to poor ratings.Meyer (2012) estimated that Stanford,

MIT and UC Berkley's dropout rates were 80-95 percent. It's a controversial question whether the dropout rates and advancement should be an issue for MOOCs.If the goal is to give elite universities and professors access to free and high-quality courses, then high dropout rates may not be a major concern (Gee, 2012). It is widely agreed, however, that it would be helpful to increase the retention rates of MOOCs by figuring out why and at what point the drop out of courses for the student.

Credit and Assessment

Most MOOCs use quizzes as their main evaluation tool-short multiple-choice questions with automated feedback responses. Some may provide certain forms of assessment that require open answers, but with limited resources it is not possible for one instructor to mark thousands of essay assignments.Several MOOCs rely heavily on peer interaction and evaluation to help the learning process for the individual student. For example, Coursera requires submitting essay style responses, graded by peer review, to align the scale with the resource available.Some concerns are expressed around online learning cheating and plagiarism, particularly where courses qualify for academic credits. On the one hand, the size of MOOCs can magnify the issue; on the other hand, the majority of MOOCs do not give academic credits so less issues can arise in this regard. Measures taken by MOOCs to avoid the problem include Coursera teaming up with Pearson test centers to provide examinations in person.MOOCs also offer incentives for the learners to win badges or a completion certificate. For certain cases they will also be eligible to earn credits towards applying for a degree. Nonetheless, most learners use MOOCs have been found to be people who already have a degree. In this situation, whether the course carries credit seems less important compared to whether they have evidence of having enrolled in a learning program by qualification and being able to present it to an employer as proof of professional development.

Conclusion

MOOCs promise to open up higher education by providing students interested in learning with accessible, flexible, affordable and fast-track completion of university courses free of charge or at a low cost. MOOCs ' popularity has drawn much attention from HE institutions and private investors around the world seeking to build their brands and enter the educational market. Institutions need to take a closer look and learn from the different projects beyond traditional institutions,develop new business, financial and revenue models in an open HE marketplace to meet the different needs of new learner groups. In an open higher education environment, policymakers will need to promote transparency and make education more affordable and accessible to all, while at the same time being competitive for the institutions. New frameworks for HE funding structures, quality insurance, and accreditation will be needed at national and international level to support various approaches and models for delivering higher education.

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Conflicts of interest

The authors declare that there are no conflicts of interest regarding the publication of this paper

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