AN EXAMINATION OF xMOOCs: AN EMBEDDED SINGLE CASE STUDY BASED ON CONOLE'S 12 DIMENSIONS

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ABSTRACT

This study intends to examine the xMOOCs offered by one of the mainstream MOOC platforms in Conole's 12 dimensions. For this purpose, the research employed an embedded single case study using heuristic inquiry to collect data. The researchers participated in three xMOOCs and took into consideration the characteristics of these MOOCs by rating them as low, medium or high in terms of Conole's 12 dimensions. Inter-rater reliability was 92 percent. The study showed that the openness, massiveness, diversity, use of multimedia, communication among learners, learning pathway and amount of reflection dimensions were high. The communication with instructors, degree of collaboration and autonomy dimensions were medium, and the quality assurance, certification, and formal learning dimensions were low. After explaining characteristics of xMOOCs from the perspective of open learning, the study highlighted that xMOOCs dramatically differ with regard to the implementation of the freemium business model to education and course delivery methods. It was concluded that MOOCs are not a new form of learning, but a new form of organizing learning similar to the open university movement, but which promises more flexibility and access than open universities.

Keywords: **MOOCs, massive open online courses, open universities, open and distance learning, lifelong learning.**

INTRODUCTION

Massive Open Online Courses (MOOCs) have attracted a great deal of attention from educational institutions, commercial organizations and governments in recent years (Nath & Agarwal, 2014; Yuan & Powell, 2013). Dave Cormier and Bryan Alexander coined the acronym MOOC for a massive open online course in 2008 (Grainger, 2013). Later, George Siemens and Stephen Downes facilitated the first connectivist MOOC, known as CCK08, in 2008. The pedagogical style of these courses was based on a philosophy of connectivism and networked learning (Daniel, 2012). The success of connectivist MOOCs led to the emergence of xMOOCs. In the fall of 2011, Sebastian Thrun and Peter Norvig from Stanford University opened their course on Artificial Intelligence (AI) to anyone in the world with access to a computer and an internet connection, which attracted 160,000 students from

190 countries (Kelly, 2014). This experience formed the basis of xMOOCs. After these initial examples, many MOOC platforms emerged such as Coursera, EdX, Udacity, Udemy, FutureLearn and Iversity (Haggard et al., 2013).

Currently, research on MOOCs usually covers xMOOCs (Ebben & Murphy, 2014; Bozkurt, Ozdamar-Keskin, & de Waard, 2016; Bozkurt, Akgun-Ozbek, & Zawacki-Richter, 2017). The vast majority of existing MOOCs are xMOOCs (Hollands & Tirthali, 2014), which are quite distinct from cMOOCs (Daniel, 2012). xMOOCs are online versions of traditional learning formats applying a knowledge transmission model using video recordings of classroom lectures or custom-produced mini-lectures (Jona & Naidu, 2014; Kelly, 2014). Most xMOOCs use this video-text-quiz format (Haggard et al., 2013). Instructors provide content and instruction to individual learners in video lectures, quizzes, assignments and assessments (Kelly, 2014). Students often rely on self-organized study and discussion groups in which their participation is voluntary (Voss, 2013). They can also earn a statement of accomplishment or a certificate of participation (Ng & Widom, 2014).

The opportunity that MOOCs offering massive courses for free or at a very low cost has generated significant interest (Nath & Agarwal, 2014). They have been widely discussed in academia recently. The extent to which MOOCs are a genuine innovation or a mere repackaging of prior heritage in open learning is a significant theme in the literature (Haggard et al., 2013). Some regard MOOCs as a disruptive innovation since they provide free access to courses, which reduces the cost of university-level education and consequently disrupts existing models of higher education (Kelly, 2014; Yuan & Powell, 2013). On the other hand, some think that it is an evolution of previous learning models in open education and online learning (Haggard et al., 2013). Across the world, there is a rich tradition of open and distance learning (ODL) practices ranging from correspondence courses to open universities and online learning (Schneller & Holmberg, 2014). According to Daniel (2012), open universities have already been offering courses similar to xMOOCs for years. Researchers criticize the ignorance of these existing ODL experiences since there is already a well-established body of scholarship on ODL in higher education (Adams, Yin, Vargas Madriz, & Mullen, 2014; Bates, 2012; Daniel, 2012). In other words, the early years of the MOOC experiment reveal not only opportunities and skepticism, but also unresolved questions (Kelly, 2014). Similarly, Haggard et al. (2013, p.24) state that Michael Gaebel, the Director of the Higher Education Policy Unit of the European Universities Association, raises one of the major questions about MOOCs: "Should MOOCs be considered a new phenomenon that can truly revolutionize higher education, or mainly as a continuation of previous attempts at online education?" To answer this question, it is critical to identify the characteristics of xMOOCs. However, recent research on MOOCs usually focus on topics such as learner profiles or user experiences (Liyanagunawardena, Adams & Williams, 2013), and there is little research examining MOOCs in existing ODL experiences. For instance, Daniel (2013) describes the similarities and differences of MOOCs and open universities in terms of their history and basic characteristics such as massiveness. Daniel also states that attempts to raise the scale higher education are not new, giving the example of the Open University of the United Kingdom. Similarly, Aydin (2013) and Ozkul (2014) compare MOOCs and open university courses' basic characteristics such as massiveness, openness, learning online and features, and they conclude that MOOCs are not new.

Despite these few studies, there is still a gap in the literature regarding the characteristics of xMOOCs. In addition, there is no framework in the literature for examining these courses. However, Conole (2013) developed a new classification model for describing the nature of MOOCs. It has 12 dimensions: level of openness, degree of massiveness, the amount of use of multimedia, the use of communication tools, the degree of collaborative learning, the type of learner pathway, quality assurance, the amount of reflection, assessment strategies, learning model, autonomy and diversity. It considers not only the main characteristics and pedagogy of MOOCs, but also of ODL courses, thus providing a comprehensive framework with its 12 dimensions to examine MOOCs. In recent studies, Conole's framework has been used for classifying or evaluating MOOCs (Conole, 2013;

Conole, 2014; Conole, 2015; Yousef, Chatti, Schroeder, & Wosnitza, 2015), but currently there is no study that uses this framework for the purpose of exploring the characteristics and pedagogy of MOOCs.

Coursera (https://www.coursera.org/), founded in 2012 by Stanford academics Daphne Koller and Andrew Ng, is a for-profit educational enterprise functioning as the largest MOOC platform in terms of university partners, courses and student enrollment (Gaebel, 2014; Grainger, 2013; Kelly, 2014; Yuan & Powell, 2013). Coursera collaborates with top universities and organizations worldwide to offer courses online and provides more than 800 courses from 114 institutions in 21 languages to learners (Coursera, 2014). Therefore, it is identified universally as an xMOOC platform (Grainger, 2013). Within this perspective, the purpose of this study is to analyze Coursera style xMOOCs using Conole's 12 dimensions. In this regard, this study intends to explore following research questions:

- What are characteristics of xMOOCs based on Conole's 12 dimensions?
- How do xMOOCs differ from existing open and distance learning practices?

METHODOLOGY

Research Method and Model

This is a qualitative case study that intends to explore and clarify the characteristics of Coursera-style xMOOCs. Case studies involve the systematic collection of information about an individual, a group or an entire community (Hagan, 1993; Yin, 1994), and can examine social settings or events in order to gain insight into their functioning (Schreiber & Asner-Self, 2011). For the purposes of the study, this research uses embedded-single case design (Yin, 1994). In embedded-single case designs, there are more than one sub-unit of analysis. In this study, Coursera-style xMOOCs constitute the main unit of analysis, while Conole's 12 dimensions constitute the sub-units of analysis.

Data Collection and Research Procedure

The data was collected through heuristic inquiry. Heuristic inquiry is an experience-based technique for problem solving, explaining, learning, discovery and self-reflection (Bozkurt, 2013; Bozkurt & Bozkaya, 2015). Douglass and Moustakas (1985) define heuristic inquiry as a search for meaning that focuses on human experience. It is an adaptation of phenomenological inquiry, yet it requires the involvement of the researcher in a disciplined research process (Hiles, 2001; Djuraskovic & Arthur, 2010).

In qualitative studies, researchers can use themselves as a data collection instrument (Barrett, 2007; Guba & Lincoln, 1981; Patton, 2002). Based on this notion, the researchers participated in and collected data through heuristic inquiry from the following three Coursera-style xMOOCs: Questionnaire Design for Social Surveys (5 weeks), E-learning and Digital Cultures (5 weeks) and Gamification (6 weeks). These MOOCs were thought to be typical xMOOCs, thus constitute a representative sampling unit. Following that, based on their heuristic experiences, researchers rated 12 dimensions proposed by Conole (2013). Each dimension was rated according to following schema: 3=high, 2=medium, and 1=low.

Conceptual Framework

The Coursera MOOCs were examined using the 12 dimensions Conole (2013) proposed for describing the nature of MOOCs. These dimensions are:

- Degree of openness
- The scale of participation (massiveness)
- Diversity
- The amount of use of multimedia
- The amount of communication
- The extent to which collaboration is include
- The type of learner pathway (from learner-centered to teacher-centered and highly structured)

- **The level of quality assurance**
- **The extent to which reflection is encouraged**
- **Certification (the level of assessment)**
- **How informal or formal it is**
- **Autonomy**

The dimensions in Table 1 can be used to design, describe and evaluate MOOCs. Conole (2015) states that each dimension can be seen as a spectrum, from little or no evidence of that dimension to a significant amount.

Table 1. A 12-dimensional classification schema for MOOCs (Conole, 2015)

Dimension	Description
CONTEXT	
Open	The degree to which the MOOC is open, ranging from closed Learning Management System courses which require the users to login and potentially pay for access through to completely open courses that use open source tools, where participants are encouraged to share their learning outputs using a creative commons license
Massive	How large the MOOC is in terms of the number of participants, which may range from a few hundred to thousands
Diverse	How diverse the participant population is; a small specialized course for local doctors for example is likely to be fairly homogenous in terms of the background and experience of the participants, in contrast a large MOOC on Art Aesthetics is likely to have a diverse participant population
LEARNING	
Multimedia	In terms of how much and what type of multimedia is used. Some MOOCs are primarily text-based whereas others make significant use of multimedia and have a high degree of interactivity
Communication	This dimension describes the way in which participants are encouraged to communicate with their peers and their tutors. This might range from limited use of discussion forums (which may or may not be moderated by the tutors), through to significant use of communication through a variety of social media tools
Collaboration	This dimension refers to the ways in which participants are encourage to collaborate together, this might range from no collaboration (particularly in xMOOCs where participants primarily work through the materials on their own) through to significant collaboration with participants working in groups on a shared set of activities
Reflection	Reflection is an important facet of learning (Dewey, 1916). This dimension reflects the extent to which participants are encouraged to reflect on (and perhaps apply) their learning. Some MOOCs will not explicitly state this, whilst others might include statements such as "reflect on what you have learnt to date" or "apply your understanding to your context". Alternatively the participants might be encouraged to write reflective blogs and comment on the blog posts of other participants
Learning pathway	Some MOOCs, such as cMOOCs, deliberately do not have a specified learning pathway through the materials; the emphasis is on participants creating their own learning pathway and Personal Learning Environments. Other MOOCs may have a prescribed learning pathway to guide the learners. Other still might have alternative learning pathways through the materials for example in the form of a "MOOC-lite" route or a more extensive route through the materials
Quality assurance	This dimension evidences the degree to which the MOOC, when it is being designed and in the evaluation of its delivery, has an associated quality assurance process. This might range from no quality assurance, where the MOOC is developed by an individual teacher, through to some form of relatively informal peer review through to high quality assurance through a formal review process and a number of iterations and improvements
Certification	This ranges from no certification associated with the MOOC, through to the assignment of badges on completion or different aspects of the MOOC or achievement of particular competences, through to certificates for participation or completion
Formal learning	This is concerned with whether or not the MOOC is linked to a formal educational offering. This can range from the MOOC being informal and optional through to perhaps being part of a formal educational offering, where MOOC participants learn alongside fee-paying students on a course
Autonomy	This is the extent to which participants are expected to work individually through the MOOC and take control of their learning with little or no tutor support through to the participants being given a certain degree of tutor support. This might include forum moderation, or formative assessment on artefacts the participants produce

Reliability, Limitations and Strengths

The researchers participated in three Coursera MOOCs: Questionnaire Design for Social Surveys (5 weeks), E-learning and Digital Cultures (5 weeks), and Gamification (6 weeks). These courses were selected as typical examples of Coursera MOOCs and appropriate to the interest of the researchers.

The examination of Coursera MOOCs was conducted as follows. The level of the dimensions was rated separately by each of the three researchers of the study based on a comprehensive literature review as well as the experience of the researchers who have been involved in ODL practices for several years and, more recently, MOOCs. The researchers first took into consideration the general characteristics of Coursera MOOCs and rated them as low, medium or high in terms of each dimension. The inter-rater reliability was calculated as 92% with the formulation suggested by Miles and Huberman (1994).

This case study is sampled Coursera-style xMOOCs because Coursera is the largest and the best-known xMOOC platform. Therefore, research findings are limited to this type of MOOC. However, the research has a special focus on xMOOCs within open education practices, which is considered its strength.

RESULTS

The following section presents the comparison of Coursera style xMOOCs in terms of Conole's (2013, 2014, 2015) 12 dimensions. The final ratings are shown in Table 2.

Table 2. The examination of Coursera MOOCs based on Conole's 12 dimensions

Dimensions		Level of Coursera MOOCs
Openness		High
Massiveness		High
Diversity		High
Use of multimedia		High
Communication	Learners	High
	Instructors	Medium
Degree of Collaboration		Medium
Learning Pathway		High
Quality Assurance		Low
Amount of Reflection		High
Certification		Low
Formal Learning		Low
Autonomy		Medium

Openness

The researchers found the degree of openness in MOOCs to be high. MOOCs were originated in the open educational resources (OER) movement, involving the notion of openness in education (Grainger, 2013; Yuan & Powell, 2013). Coursera MOOCs are open to anyone and generally, they have no prerequisites (Kelly, 2014; Liyanagunawardena et al., 2013; McAuley, Stewart, Siemens & Cormier, 2010; Grainger, 2013). Most Coursera MOOCs provide open access to the course materials regardless of previous education, so they increase access to educational content (Kelly, 2014) and they are generally accessible during and after the MOOCs. In terms of participating courses by registration, MOOC learners are able to be in and out whenever they want with no penalty. This opportunity provides great flexibility for learners. Coursera MOOCs provide open access; however, they are not usually open licensed, which means that users cannot retain, reuse, revise, remix or redistribute the content (Kelly, 2014).

One of the major affordances of open universities is that they provide access to learning and training opportunities (Moore & Kearsley, 2005). The emergence of the idea of

establishing the Open University United Kingdom (OUUK) was accelerated by the desire to breaking down barriers and opening up educational opportunities since admission to higher education was very restricted at that time in the UK (Moore & Kearsley, 2005). The notion of openness was then adopted by many other countries that led to the establishment of open universities, in which learners can enroll in courses regardless of previous education. Currently, most of the undergraduate programs of OUUK have no formal entry requirements (OUUK, 2014). However, the concept of openness may differ according to the cultural and educational context of the country, institution, program or course. There may be exceptions and enrolling in a particular program or a course may require prerequisites according to the level and type of the program. However, although the degree of openness may differ in some circumstances, Coursera MOOCs can be claimed to be open depending on the context.

Massiveness

The researchers rated massiveness dimension for Coursera MOOCs as high. Even though massiveness is primarily used for the number of participants, Levy (2011) states that massiveness also covers participants' diversity, backgrounds and experiences, the communication tools, the web technologies, the amount of distributed knowledge and the complexity of the distribution, the width and depth of discourse among the participants, the multi-modal nature of the discourse and finally, the massive amount of time needed to manage and organize. However, massiveness in this research was regarded as the number of participants to be able to examine the term within clear boundaries.

An important feature of xMOOCs is that they can accommodate large numbers of learners (Gaebel, 2014; Haggard et al., 2013; Kelly, 2014; Voss, 2013; Grainger, 2013). In 2012, a typical Coursera MOOC attracted between 40,000 to 60,000 learners (Koller, Ng, Do & Chen, 2013). However, the size of the MOOC population can range from 54 students per course to 42,000 (Bates, 2014). One of the pioneers of the MOOC idea, George Siemens (2012), highlights that size does not matter and if you have 15+ learners, you can start a MOOC. Research conducted by Jordan (2014) found the average MOOC course to enroll around 43,000 students.

Diversity

The researchers rated diversity of Coursera MOOCs as high. Coursera serves diverse learners by partnering with top universities and organizations worldwide and offering 1600 courses from more than 145 institutions in over 30 languages (Coursera, 2017). In January 2016, it was reported that Coursera had more than 22 million learners from in 190 different countries (see https://www.coursera.org/about/community). It enables learners to access a plethora of courses from various institutions and academics and choose the most appropriate ones to meet their needs. For instance, learners have the opportunity to list the courses in the subject area of their interest, compare them and choose the most appropriate ones according to their needs in terms of course structure, duration or language. Learners can easily register and log in to the courses free of charge. In other words, MOOC platforms provide an aggregated course database and ease access to varied courses and topics for diverse learners.

Use of Multimedia

The use of multimedia was found to be high in Coursera MOOCs. MOOCs offered on the web involve a set of freely accessible online resources that provide the content or the study material (Liyanagunawardena et al., 2013). In Coursera MOOCs, a range of multimedia are used. The main pedagogical tool is the lecture, which is often broken down into short segments involving interactive quizzes and activities (Kelly, 2014). Instruction is provided predominantly through these weekly short lecture videos, which are typically 10 minutes long or less, and sometimes they are supported by supplementary readings, and problem sets or other assignments (Hollands & Tirthali, 2014). In addition to these, either or both asynchronous and synchronous interactions in text, audio, video and immersion can be used during scheduled learning sessions (Miyazoe & Anderson, 2013). For instance, learners interact and communicate with each other through discussion boards, social

networks, meet-ups (real and virtual) and/or other online communication tools. Some instructors in Coursera MOOCs also interact with learners using tools and services such as Twitter, Google Hangout and YouTube.

Degree of Communication

The researchers found that communication among learners is high in Coursera MOOCs. They rated communication between learners and instructors as medium in Coursera MOOCs. In Coursera MOOCs, learners are encouraged to interact with each other voluntarily in discussion forums, and thousands of learners produce thousands of simultaneous entries (Hollands & Tirthali, 2014; Kelly, 2014). Online discussion forums allow participants to engage with each other and course facilitators for technical and instructional support or merely to create a sense of community (Hollands & Tirthali, 2014). The presence of the instructor is low (Voss, 2013), and communication between instructors and learners is generally provided through pre-recorded videos or rarely through online communication tools. In some courses, Twitter and Google Hangout are used to communicate with learners. Some MOOCs also facilitate in-person study groups (Kelly, 2014). However, these kinds of communication tools are in the minority.

Degree of Collaboration

The researchers found the degree of collaboration of Coursera MOOCs to be medium. In Coursera MOOCs, learners mostly do the assignments individually, but have the opportunity to collaborate with each other during the learning process. Some of the courses facilitate in-person study groups (Kelly, 2014). Grainger (2013) states that some course forums exhibit good examples of geographical and language-based study groups and networked learning as well as crowd-sourced answers organized by the learners.

Learning Pathway

The learning pathway dimension was rated as high in MOOCs by the researchers. Most of the xMOOCs are pre-determined, instructor-led and structured to include sequenced weekly activities (Hollands & Tirthali, 2014). Courses usually have a start date, deadlines and a fixed length (Kelly, 2014). They are offered for a fixed period of time in which participants are expected to complete activities; however, some xMOOCs are self-paced, remaining open indefinitely to participants (Hollands & Tirthali, 2014). In some Coursera courses, learners have options and flexibility regarding whether to do the assignments and receive a certificate or not. They can access basic courses and assessments for free, but in most cases they have to pay for additional services like exam proctoring, coaching and feedback, which is called the freemium model (Kelly, 2014). For some courses offered by Coursera, learners have to pay about $50-$70 for the signature track service to receive a verified certificate (Grainger, 2013). In addition, they can join in Coursera MOOCs during or after the course and access learning content. In other words, they can drop in or out anytime they want. This provides great flexibility to MOOC learners.

Quality Assurance

The level of quality assurance was rated as low in Coursera MOOCs. In Coursera MOOCs, the courses are peer-reviewed prior to delivery. Coursera has introduced a protocol for quality assurance, and courses are reviewed by the home institutions (see http://vucourseraguide.pressbooks.com/chapter/quality-assurance/). This protocol outlines some processes such as course description pages, course development agreements, early uploading of course materials, on-going class monitoring and post-course feedback. In addition, the American Council for Education (ACE) reviewed and externally quality assured five Coursera MOOCs for credit (Gaebel, 2014). However, formal quality assurance mechanisms, especially external practices, in MOOCs have not been established yet as in formal education (Conole, 2013). According to some researchers, the quality of teaching or pedagogy is at risk since most of the current MOOCs are from research-intensive universities (Grainger, 2013). Thus, quality assurance is regarded as a major weakness of MOOCs (Daniel, 2013).

Amount of Reflection

The researchers rated the amount of reflection as high in Coursera MOOCs. In Coursera MOOCs, learners are encouraged to reflect on the content continuously by the instructions, quizzes, videos and assignments. For instance, videos are often punctuated every two-three minutes with automatically graded online multiple choice or short answer questions to help learners formatively assess themselves (Hollands & Tirthali, 2014). In addition, discussions provide an opportunity for reflection. Web 2.0 environments such as wikis, blogs, Facebook pages or Twitter used in Coursera MOOCs also enable learners to reflect on the content.

Certification

The level of certification and assessment activities were rated as low in Coursera MOOCs. Learners have the opportunity to participate in Coursera MOOCs without completing the assessment activities (Jordan, 2013). However, in most cases they have to complete these activities if they intend to receive a certificate. Learners with passing scores receive certificates of completion for little or no cost (Kelly, 2014). In Coursera, courses provide graded assessments and certificates of completion as well as opportunities to take proctored exams for a fee. Verified certificates are offered with a signature track option in which learners are identified by an ID card and recording their typing style (Gaebel, 2014; Grainger, 2013; Kelly, 2014). Assignments, multiple-choice questions and essays are among the most commonly used assessment tools in MOOCs. Machine grading and especially peer grading methods are commonly used to score written assessments (Balfour, 2013; Kelly, 2014; Sandeen, 2013). However, providing more valid and reliable assessment schemes is among the areas that should be improved in MOOCs.

Formal Learning

The researchers rated the formal learning dimension as low in Coursera MOOCs. A great majority of the Coursera MOOCs are informal. Coursera offers certification that is not part of credit for awards (Yuan & Powell, 2013). However, there seems to be a trend towards awarding credits (Gaebel, 2014). Some universities have started to offer credits to their MOOCs in order to reduce students' enrolled time on campus and thus reduce the cost of degrees (Haggard et al., 2013). For instance, in May 2013 Coursera announced partnerships with ten state university systems to build credit-bearing online courses for students enrolled in these systems (Kelly, 2014). The American Council for Education (ACE) has also accepted five courses Coursera for credit (Gaebel, 2014).

Autonomy

The level of autonomy was rated as medium in Coursera MOOCs. In the majority of the Coursera MOOCs, participants are expected to work individually and take control of their learning, although there are group activities in some courses. There are weekly assignments and quizzes. Instructor support is minimal. In other words, they have little opportunity to make decisions about the amount and type of learning activities to prepare themselves for the exams, quizzes and other types of evaluation.

DISCUSSION

In this study, Coursera MOOCs, that is to say xMOOCs, were examined in terms of Conole's 12 dimensions for describing the nature of MOOCs. As a result of this investigation, the researchers found that the openness, massiveness, diversity, use of multimedia, communication among learners, learning pathway and amount of reflection dimensions are high. The communication with instructors, degree of collaboration and autonomy dimensions were found to be medium, and the quality assurance, certification and formal learning dimensions were found to be low.

When the research findings are compared from the ODL perspective, it can be said that ODL practices vary in the degree of openness, communication, learning pathway or quality assurance according to the context of the countries, institutions, programs or courses. Supporting this claim, Read and Rodrigo (2014) state that it is not easy to specify what

exactly differentiates a MOOC from other types of online courses. Even the basic characteristics of MOOCs can blur between courses, some of which are called MOOCs, and some are not. Obviously, this proves that open universities have already been giving MOOC-like courses for years even though they are not called MOOCs. If so, what makes MOOCs different and popular when compared with their ancestors?

One of the distinguishing characteristics of xMOOCs is their business model. Strikingly, as mentioned in the learning pathway dimension, one of the major characteristics seems to be the implementation of freemium model for MOOCs, which has become a popular business model and widely been used by the software companies and internet service providers to make more money over the past decade. The economic logic behind freemium is that, "When the supply of a product increases, the demand for its complementary products also increases" (Freemium.org, 2014). Seufert (2014, p.1) describes freemium business model as follows: "The freemium business model stipulates that a product's basic functionality be given for free, in an environment of very low or no marginal distribution and production costs that provides the potential for massive scale, with advanced functionality, premium access and other product-specific benefits available for a fee."

Companies in several industries have gradually been implementing the model during the last few years to compete in the capitalized world (Freemium.org, 2014). The implementation of this model in education seems to appear as MOOCs. LaBossiere (2014) states that for-profit MOOC providers are typically funded by venture capitalists who are gambling that the MOOCs will be MOMMs (Massive Online Money Makers). This monetarist approach to MOOCs will not only aggravate the problems regarding quality mentioned in the literature (Daniel, 2012), but may also give rise to a new generation of fraudsters similar to the diploma mills encountered in ODL.

According to Fischer (2014), current developments indicate that in the future only the basic services (e.g., the lectures) will remain free, whereas the premium services such as receiving mentoring, feedback and certification will require a fee. Therefore, some researchers imply that MOOCs will probably take different forms such as small private online courses (SPOCs) (Coughlan, 2013) or mid-sized online closed courses (MOCCs) (Gaebel, 2014). Whatever form they take, MOOCs' implementation of the freemium business model in learning environments offers flexibility to learners.

Another major characteristic of xMOOCs is related to the delivery of courses. MOOC platforms provide an aggregated course database and ease access to varied courses and topics so that learners can search, filter, compare the courses that they look for and purchase. In other words, these platforms provide and online shopping experience, similar to shopping online for a computer from Media Markt or Best Buy, where consumers can easily access various types and brands of computers and by searching, filtering and comparing select the most appropriate one. This kind of experience leads to a high level of diversity in MOOCs.

CONCLUSION

In MOOCs, the implementation of freemium model to learning enhances flexibility, whereas the emergence of course platforms and their offerings increase access to online learning environments, which have always been the two critical components of ODL. In the ODL literature, distance education organizations are identified at a number of different levels in terms of organizational structure such as single-mode institutions, dual-mode institutions, individual teachers, virtual universities and consortia (Moore & Kearsley, 2012). In this context, MOOC platforms provide a different model from the existing ones and can be regarded as a new level of organization in ODL.

Based on the investigation of xMOOCs in the study, it can be claimed that MOOCs are not a new form of learning, but a new form of organizing learning, which promises more flexibility and access than open universities. Moore and Kearsley (2012) define distance education in five historical generations: correspondence courses, broadcasting, open universities, teleconferencing, and computer and internet-based virtual classes. They imply that these generations were characterized by communications technology except for the third generation, open universities. They describe the third generation as the invention of a new way of organizing education. MOOCs or similar practices seem to be in a similar position and might become a sixth generation in the historical classification.

The results of this study suggest that the following implications should be taken into consideration in the future:

- **Open universities should transfer their experience in ODL to MOOC developers in the design and development of courses.**
- **Higher education institutions, especially open universities, should develop their own MOOC model to meet the demand both from their own students and lifelong learners.**
- **Open universities should develop new education policies that increase openness, flexibility and access in order to compete with MOOCs and provide more options for learners.**
- **The scope of quality assurance and accreditation should cover issues such as open curriculum, open learning, open assessment and open platform.**

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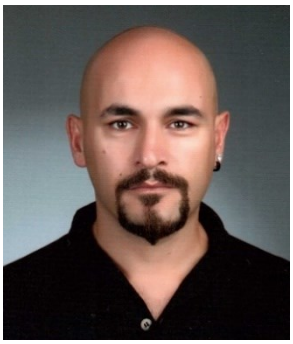

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