Exploring the Usage of MOOCs in Higher Education Institutions: Characterization of the Most Used Platforms

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ABSTRACT
This article analyses the current usage of Massive Open Online Courses (MOOCs) in HEIs. First, a literature review is performed to identify and classify the recent developments in the area and to characterize the most used platforms and courses. Following this, an analysis of MOOCs offered by some HEIs is carried out to characterize and compare the courses available in the platforms. Concerning the main findings, the literature reveals that usage of MOOCs has been growing in recent years and that Coursera and EdX are the two main platforms used. The analysis of MOOCs available in those platforms shows that the number of universities using them and the number of courses offered have been increasing. The comparison between the courses available through the above-mentioned platforms shows that EdX is more interdisciplinary. The outcomes of this article are valuable for researchers on ICT use in HEI and may help professors implementing MOOCs in their own environment.

KEYWORDS
Coursera, EdX, Higher Education, MOOCs

1. INTRODUCTION
Higher Education Institutions (HEIs) are becoming more receptive to integrating new technologies into their teaching and learning processes, with Massive Open Online Courses (MOOCs) platforms being one of the most recent.

The MOOC is a concept associated with e-learning (Fini, 2009) and offers world class education to an unlimited number of participants (massive) around the globe with Internet access (online) for low or no fees (Aboshady et al., 2015; Glance, Forsey & Riley, 2013). MOOCs make use of some traditional course materials such as videos or short videos combined with formative quizzes, texts and problem sets, using tools for interaction, in order to build a community of students and lecturers (Ahlberg, 2014). In these courses, it is also possible to implement formative quizzes, automated assessment, peer and self-assessment and online forums for support and discussion (Glance et al., 2013). Therefore, they can offer educational benefits to HEIs, professors and students (Aboshady

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et al., 2015), providing opportunities for thousands of learners to participate in free online courses (Ahlberg, 2014; Yousef, Chatti, Wosnitza & Schroeder, 2015).

Hew and Cheung (2014, p. 51) refer to three main differences between MOOCs and traditional classroom courses: “the large and diverse student enrolment in MOOCs, the high dropout rate of MOOCs compared to that of traditional courses, and the relatively lack of instructor presence or support in MOOCs compared to traditional courses”. Concerning the comparison between MOOCs and traditional e-learning courses, it is recognized that MOOCs involve more self-directed learning than other e-learning courses, and that the central role of the mediator is more recognised in traditional e-learning courses than in MOOCs (Nyoni, 2013).

The underlying technology of MOOCs is recent. The first MOOC was launched in 2008 (Ahlberg, 2014; Fini, 2009) and in 2011 there was a ‘wave of offers’ of MOOCs (Tschofen & Mackness, 2012). At present, HEIs are offering a growing variety of MOOCs (Yousef et al., 2015), using different platforms.

This paper aims to analyse the current usage of MOOC platforms by HEIs. This analysis was performed in two phases: the first one consisted of a literature review performed in order to (1) identify and classify the published works and the recent developments in this area, (2) identify the most popular MOOC platforms, and (3) characterize the most used platforms and courses based on the practical cases reported in the literature. The second phase involved the analysis of MOOCs offered by some of the most recognized HEIs around the world, in order to characterize and compare the courses available in the two most popular MOOC platforms.

The paper is organized in four sections. The MOOC concept was outlined in this introductory section. The characterization of the most popular MOOC platforms through data from a systematic search is described in the second section and, in the third section the most used MOOC platforms in HEIs are characterized through the data collected. Finally, in the fourth section, some conclusions and directions for future work are presented.

## 2. CHARACTERIZATION OF THE MOST POPULAR MOOC PLATFORMS THROUGH A SYSTEMATIC SEARCH

In this section, the research method of the literature revision and a brief characterization of the articles considered relevant are presented (section 2.1). In section 2.2, the most mentioned MOOC platforms in the selected articles are identified and the two most often referred to are characterized.

### 2.1. Selection and Characterization of the Selected Articles

The methodology followed in the first part of the study was a systematic literature review covering the years from 2008 to 2015, since the first MOOC appeared in 2008 (Ahlberg, 2014; Fini, 2009).

In order to gather data about published MOOC literature, the most specialized scientific databases in the areas of Information and Communication Technologies (ICT) and Education were selected, which were (1) ISI Web of Knowledge; (2) Scopus and (3) IEEE Xplorer.

The selected search terms were: (1) MOOC; (2) massive open online course; (3) higher education; (4) university and (v) universities. The search was performed in the title, in the abstract and in the keywords and the search expression used was (MOOC OR “massive open online course”) AND (“higher education” OR university OR universities).

An overview of the documents identified is presented in Table 1. The first column identifies the database used in each search; the 2nd column presents the resulting number of documents (article, review, conference paper, book, book chapter, editorial) and, in the 3rd column, the resulting number of the document types considered in this work – article or review, from now on named ‘article’.

It should be emphasized that some of the articles are common to more than one database. The data collection resulted thus in 279 articles, 54 only from ISI Web of Knowledge, 132 only from Scopus, 1
Automatic Digital Content Generation System for Real-Time Distance Lectures
Masami Iwatsuki, Norio Takeuchi, Hisato Kobayashi, Kazuo Yana, Hiroshi Takeda, Hisashi Yaginuma, Hajime Kiyohara and Akira Tokuyasu (2007). International Journal of Distance Education Technologies (pp. 7-18).
www.igi-global.com/article/automatic-digital-content-generation-system/1694?camid=4v1a

Transitioning from Face-to-Face to Online Instruction: How to Increase Presence and Cognitive/Social Interaction in an Online Information Security Risk Assessment Class
www.igi-global.com/chapter/transitioning-face-face-online-instruction/22650?camid=4v1a