Potential for MOOCs in Foreign Language Teaching

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Massive Open Online Courses (MOOCs) burst upon the higher education scene in 2012 and since then, there has been ongoing heated discussion about their place in and impact on higher education. The first section of this paper briefly covers the impact of technology on distance learning and the history of MOOCs. MOOCs are open to all because there is no cost to students, there are no entry qualifications, and there are no age restrictions. The leading MOOC platforms are listed and described. Some existing MOOCs for language learning are described with a focus on content delivery, personalized training, and assessment. The paper concludes with the authors' vision of an effective language MOOC, which would include effective content delivery, personalized training, and assessment with meaningful feedback.

　MOOCs は2012年に高等教育分野において現われて以来、高等教育におけるその役割や効果について多くの議論がなされている。本稿ではまず遠隔地学習 (distance learning) における科学技術の影響およびMOOCsの歴史について述べる。MOOCsはすべての人に開かれたプログラムである。その利用法が容易である理由として、費用が無料であり、受講資格認定を必要とせず、年齢制限がないことなどがあげられる。MOOCs利用の先端を行く機関をリストし、説明をする。語学教育 (学習) の手段として活用されているMOOCsについては、内容伝達、個人的訓練、及び評価などの特徴に焦点をおいて説明する。本稿の結論として、筆者はMOOCsの効果的語学活用法に対する展望を述べる一方で、MOOCsの効果的内容伝達、個人訓練、意味のあるフィードバックを伴った評価について詳述する。

ADVANCES IN technology in the late 20th century significantly impacted distance learning and led to the growth of delivery models such as blended learning and fully online learning. These were mainly applied in graduate and continuing education programs rather than for undergraduates. Various technologies were used to create the synchronous learning environment—such as video conferencing, the virtual classroom, one-on-one dialogues, and break-out rooms—as well as the asynchronous learning environment—such as videos, recorded audio lectures, online discussions via posts, chats, and blogs (Smaldino, Lowther, & Russell, 2008). However, in the eyes of many academics, online programs were second class programs and online learning was considered to be inferior to courses offered in a face-to-face setting (Allen & Seaman, 2011). This was the general scenario for online programs until the early 21st century when MOOCs burst upon the higher education scene.

　The acronym MOOC was originally coined to describe an open online course, *Connectivism and Connective Knowledge*, which was offered in the fall of 2008 at the University of Manitoba (Alexander, 2008; Cormier, 2008). What differentiated this course from existing online courses

was that it was freely available to anyone who wanted to participate (Fini, 2009). In addition to 25 fee-paying students on campus, 2,200 people from around the world registered for the course free of charge (Downes, 2011).

Generally speaking, MOOCs can be classified into three forms: cMOOCs, xMOOCs, and SPOCs (Lane, 2012). cMOOCs (MOOCs 1.0) are *connectivist* MOOCs—based on the connectivist learning theory (Siemens, 2005). It is a form of open learning with no set curriculum, process, or particular method. It develops following the interests and knowledge shared by the students in the class. Notable cMOOCs to date have had between 556 and 1700 participants (Rodriguez, 2012).

xMOOCs (MOOCs 2.0) developed through experiments conducted at Stanford University. The first xMOOC, *CS221: Artificial Intelligence: Principles and Techniques*, attracted 160,000 students from all over the world (Leckart, 2012). Unlike cMOOCs, the focus of xMOOCs is on the mastery of course content. In an attempt to ensure that MOOC students have successfully acquired the content, graded unit quizzes are used. However, due to the large number of students in these courses, it is impossible for the teacher(s) to assess each student on an individual basis. As a result, the largest MOOCs tend to rely on automated testing for the bulk of the assessment.

The third and newest form of MOOCs are SPOCs, which are small private online courses. These are also offered free online but have restricted access in the sense that students need to apply and meet certain criteria to be allowed to do the course (Coughlan, 2013).

MOOC Platforms

Of the three forms of MOOCs, it was the xMOOCs that caught the attention of the public media and created a lot of interest among elite universities, venture capitalists, and other funding organizations. Because of this interest, MOOC became the educational buzzword of 2012 (Pappano, 2012). Some people voiced strong arguments for them, for example: "[They] can impact lives around the world, for the next billion students from China and India" (Lewin, 2012, para. 10) and "It's the biggest innovation to happen in education for 200 years" (Cadwalladr, 2012, para. 21), but headlines such as "Will MOOCs destroy academia?" (Vardi, 2012) and "Do online courses spell the end for the traditional university?" (Cadwalladr, 2012) reflected the opinions of those who were critical of them.

Clearly there is controversy over MOOCs, yet there has been a MOOC tsunami with a number of MOOC platforms being developed to offer MOOCs in a more systematic way. Some of these MOOCs' platforms are for profit, whereas others are not-for-profit. Table 1 shows some of the leading MOOC platforms from around the world.

Table 1. Leading MOOC Providers

Region	Founded	Name	Profit?	# of courses	
				all	learning a foreign language
United States	2012	Coursera	For	632	0
United States	2012	edX	Non	175	1*
United States	2012	Udacity	For	34	0
Australia	2012	OpenLearning	For	79	1
Australia	2013	Open2Study	Non	49	0
United Kingdom	2012	FutureLearn	Non	36	1
Japan	2012	Schoo	For	54	0
Europe	2013	Academy Cube	For	66	0

Note: Obtained from course listings in May 2014. *This course is divided into 3 parts.

In the United States, there are three large, well-known MOOC platforms: Coursera, edX, and Udacity (The Big Three, 2012). Coursera, a for-profit platform, is currently offering courses taught not only in English, but in Chinese, French, and other languages (Coursera, 2014). EdX, a not-for-profit, originally a collaboration between MIT and Harvard, now offers courses from leading universities from around the world (EdX, 2014). Finally, Udacity, another for-profit platform, has both paid and free courses in data science, mathematics, and programming (Udacity, 2014).

In other parts of the world, there are similar initiatives to those in the United States. In Australia, OpenLearning (www.openlearning.com) was set up in 2012 and Open2Study (www.open2study.com), supported by Open Universities Australia, started in 2013. In the United Kingdom, FutureLearn (www.futurelearn.com), an initiative led by Open University offers courses from leading universities in the country, the British Library, and the British Council. In Japan, Schoo (www.schoo.jp) currently offers mostly work-related courses such as web design, programming, and desktop publishing to more than 60,000 office workers in their late 20s and early 30s. Finally, in Europe, Academy Cube in Denmark (www.academy-cube.eu) is an alliance between industrial companies and institutions focused on filling job vacancies in the STEM fields. European universities such as Helsinki University offer MOOCs on their own platforms or have collaborated with American MOOCs such as Coursera and edX to deliver courses. However, there has recently been a call for a coordinated European MOOC platform (Myklebust, 2013).

Although learners around the world have access today to an overwhelming number of high quality free course offerings provided by leading MOOC providers, there still remains a notable lack of courses on learning foreign languages. We could only find three foreign language-learning courses, all of which focus on writing: *English Whit #1 Using Sentence Connectors* at Open-Learning, *Principles of Written English* at edX, and *A Beginners' Guide to Writing in English for University Study* at FutureLearn.

MOOC Characteristics

MOOCs are offered fully online. For a student to take a MOOC, the only technical requirement is a computing device (i.e., computer, laptop, tablet) with Internet access. MOOCs are truly open to all who are interested for several reasons: (a) there is zero cost to the student, (b) no entry qualifications are stipulated (except in the case of SPOCs), and (c) there are no age restrictions (Murray, 2013). MOOCs are short in duration, mostly ranging from 4-14 weeks. Generally speaking, in the free MOOCs no credits are awarded upon successful completion. However, as more institutions of higher education become involved with MOOCs, some institutions are willing to give credits. For example, when students completed a MOOC offered by Edge Hill University, *Vampire Fictions*, they could pay £200 to receive 20 credits towards an undergraduate degree (Parr, 2014).

MOOC courses are not delivered in any standard way. However, the majority of the existing xMOOCs have a number of commonalities: lectures, homework, assessment, and discussions. To illustrate these similarities, a popular Coursera offering, *Think Again: How to Reason and Argue*, (www.coursera.org/course/thinkagain) will be used. First, the course contents are divided into a number of units. Typically, units of instruction are approximately 1 week in duration. Each unit contains a series of short video lectures that are between 5 and 25 minutes in length. For example, in Week 4 of *Think Again*, there are six lectures—the shortest 7 minutes and the longest 24 minutes. At various points in each of the lectures, the student is prompted to answer multiple-choice questions about the material before being allowed to proceed. The student can view each video as many times as necessary. Even after the course is officially over,

the videos are still accessible.

As for homework, after each lecture, the student completes short exercises (ungraded quizzes) that can be repeated as many times as necessary until the student is satisfied that he or she has mastered the contents. For official assessment, the student must receive passing scores on graded quizzes and exams to ensure that the course contents have been acquired. Since the majority if not all of the assessment relies on computer grading, closed-question forms such as true/false and multiple-choice are used. In *Think Again*, each of the four quizzes consists of 30 questions, which are either true/false, or multiple-choice. Students can only complete graded quizzes once but each quiz has four forms. In the case that students fail a quiz or are unhappy with their quiz scores, they can complete the alternate forms. The highest quiz score on any of the forms is used when calculating the overall course grade. In other courses, such as humanities courses, computer grading is not possible and peer assessment is used for writing tasks. An example of a popular MOOC that utilizes peer-feedback is *Fantasy and Science Fiction: The Human Mind, Our Modern World* (www.coursera.org/course/fantasysf) offered by Coursera.

The final component is discussion forums. Forums provide opportunities for the students to have asynchronous discussions with their classmates and the course instructor(s). In addition to forums, *Think Again* employs Google+ Hangouts to give the students opportunities to interact synchronously with each other in small groups.

MOOCs for Language Learning

Like an online language course, it is important that a foreign language MOOC also include the four major benefits of online language learning for learners: (a) flexibility, (b) personalization, (c) autonomy, and (d) automation (Blake & Guillen, 2014).

Since the majority, if not all, of the course contents in a MOOC are delivered in an asynchronous format, students have a lot more flexibility because they can study anywhere and at any time. MOOCS that employ adaptive technology can personalize the course and adjust the contents to meet each student's level. Because students study individually, there are many opportunities for them to take control of their learning. Finally, automation benefits both the students and the teacher. In the case of computer-graded quizzes, the students benefit from receiving immediate feedback.

There is a dearth of MOOCs for learning foreign languages. We believe that this is due to practical reasons related to the nature of foreign language teaching and learning. That is, the ability to effectively communicate in a foreign language requires the users to be proficient in both productive (speaking and writing) and receptive (listening and reading) skills. Powers (2010) summarizes effective communication as "people must not only speak or write; they also must understand how others have perceived their messages" (p. 4). Although we think that existing MOOC platforms can effectively transmit course contents, there are limitations to the ways that learners can practice and use newly acquired course contents. In other words, learners can acquire knowledge about a foreign language, but there are few opportunities to practice using their knowledge. Compared with the traditional foreign language-learning classroom model, MOOCs offer adequate opportunities for learning receptive skills but fewer opportunities for learning productive skills.

The University of Utah offered the first foreign language MOOC, *Improving your Spanish Pronunciation*, a 6-week course on Canvas Network (Rubio, 2013), which was taught by an instructor and two assistants. In an effort to avoid overwhelming the teaching staff, enrollment in the course was limited to 500 students (Rubio, 2014). Partway through the course, the instructor made a number of observations about the course

(Rubio, 2013). The large number of students (comparable to the total number of students taught by the instructor in the previous 10 years) and their diversity (from around the world) was a benefit. Another benefit was the detailed analytics about how the students interacted with the course materials. The instructor could see daily activity and how individual course components such as assignments, modules, and discussions were being used (Canvas Help Center, n.d.). Rubio (2014) felt such analytics were important because a MOOC does not force the students to proceed throughout the course in a predetermined sequence. (Such analytics are also useful in understanding how improvements can be made for further course offerings.) On the negative side, the students had little extrinsic motivation because they were not receiving grades and had not paid for the course. Of the 500 students who registered for the course, only 44 actually completed it (Rubio, 2014). Another observation was that all the course materials were not used—the students only used what they wanted and ignored the rest. For these reasons, Rubio (2013) reached the conclusion that it was difficult to design and run a language MOOC.

What Would Make a Good Foreign Language MOOC?

We believe that there are certain elements needed to offer good foreign language learning MOOCs. These are (a) effective content delivery, (b) personalized training, and (c) assessment with meaningful feedback. To illustrate these elements, examples will be used from language courses currently provided by some of the lesser known MOOC platforms.

Content Delivery

One of the strengths of a MOOC is the ability to deliver content that students can access at any time as needed. For example, at the beginning of each unit of instruction, videos may be used to introduce grammar structures and vocabulary that are essential for the unit. However, some students may not need these videos at all or may want to watch them later in the unit. In addition to providing learning materials on an on-demand basis, an effective MOOC provides the students with materials of various levels of difficulty. Naturally, like textbooks and other traditional classroom materials, the contents should be organized by difficulty. Content can be graded in a number of ways, such as by vocabulary level or by the grammatical structures used. For example, *The English MOOC* (www.language-exchanges.org), which is intended for Spanish learners of English, organizes the content by separating the 40 lessons into two levels (30 beginner, 10 intermediate). Students complete lessons that they feel are appropriate for their level. In addition to using levels of difficulty to organize the course contents, adaptive computer learning systems (i.e., intelligent CALL), can allow course contents to be used in a number of ways. For example, learners could listen to the same listening passage but complete different tasks (i.e., one student listens for gist while another listens for specific details). Instead of the student choosing which task to complete, the system would select the most appropriate task based on the student's past performance.

Personalized Training

Although all the students in the course complete the same activities, the tasks themselves can be varied in difficulty. Based on past performance and learning to date, an adaptive system may give one student vocabulary-related questions and another grammar-related questions. A concrete example of how this can be implemented is the *Spanish MOOC* (www.spanishmooc. com). While practicing, the students watch videos and complete multiple-choice questions.

Figure 1. Live exercise screenshot (Spanish MOOC).

As can been seen in Figure 1, in Spanish MOOC, a video is shown along with English and Spanish transcripts. While each phrase is spoken or sung, it is highlighted in yellow. After each phrase is played, the video pauses and the students answer questions on grammar or vocabulary. What makes this activity more effective than a generic cloze activity is that the questions are personalized to be at an appropriate level for the student.

However, in order for someone to be an effective second or foreign language user, one also needs opportunities to practice the productive skills. In *The English MOOC* for Spanish learners of English, the students practice speaking by completing speaking tasks with a language partner via a Skype conversation. The language partner is a native English speaker who is studying Spanish on a sister MOOC. After completing the speaking task, the students summarize their conversation on the website's blog.

Assessment

In order to be viable, the ideal MOOC cannot overwhelm the instructor with grading. By definition, a MOOC allows a larger number of students to participate than other forms of instruction. Computerized grading has the most potential for increas-

ing the scale of a course by relieving the instructor of some of the grading duties. For example, the use of multiple-choice questions for vocabulary and grammar quizzes can be accurately assessed by the learning management system. Advances in computer technology make it also possible for short speaking and writing tasks such as grammar-translation activities to be computer graded. In addition, there are other forms of assessment that can be utilized in MOOCs. For example, *Improving your Pronunciation* used self-, peer, and expert assessment to evaluate the students (Rubio, 2014).

A Vision for a Language MOOC

We would like to posit that MOOCs can be effectively used to teach foreign languages. By taking concepts from the existing language MOOCS, we propose our image for a language MOOC. First, and most important, instead of focusing on writing instruction as the leading MOOC platforms do, we envision a course that provides training for all four of the language skills, productive and receptive.

The approach taken by the xMOOCs seems appropriate for the introduction of key concepts in the course. For example, short instructional videos with subtitles could be used. The transcripts would also be provided so that weaker students could read about the concepts at their own pace. To further personalize the learning experience, the students would not need to complete units of instruction in a determined order (like Rubio's, 2013, *Improving Your Pronunciation* course). Students could focus their time and energies on areas that they feel need improvement. Of course, a placement test at the beginning of the course could be used to identify a student's strengths and weaknesses.

To further personalize the training, adaptive technology should be implemented (like the *Spanish MOOC*) to track a stu-

dent's progress throughout the course. If a student consistently makes the same errors, the system could be programmed to give targeted advice and suggest additional resources and activities. Conversely, if a student is performing well, practice exercises could be changed to better meet the student's needs. For example, in a vocabulary exercise, the program would not choose items of vocabulary that the student has demonstrated sufficient mastery of. In addition to using computer-graded formative quizzes, an effective language MOOC would provide opportunities to interact with people. For asynchronous communication, discussion forums within the course could be used for writing and speaking practice. More importantly, the students need speaking and listening practice. One solution would be to limit the number of students and to have an appropriate number of instructors and assistants (like in *Improving Your Pronunciation*). However, a more scalable and more financially practical solution would be to emulate the approach of *The English MOOC* and to offer tandem courses in two languages. The native speakers would be moderators in one course and students in the other course. These moderators would then increase the opportunities for students to practice. For synchronous communication, regularly scheduled lectures might be an option, particularly in a SPOC or a smaller MOOC. Like *Think Again*, Google+ Hangouts could be used for real-time chats between small groups of students and a moderator, instructor, or assistant. Even better, Voice-over-Internet Protocol (VOIP) technology could be used to provide one-to-one practice opportunities.

Finally, both formative and summative assessment would be used in the course. Computer-graded quizzes would be used to assess the mastery of fundamental course contents such as grammar and vocabulary. In addition to computer-graded quizzes, self-, peer, and expert assessment would be used (like in *Improving Your Pronunciation*). To do this, various scoring rubrics would need to be devised.

Conclusion

Although there is no current foreign language learning MOOC that implements all of these proposed components, we are confident that it is only a matter of time before more foreign language learning MOOCs come out. We suspect that a number of educators and institutions are waiting to see what type of language learning MOOCs emerge from the partnership between FutureLearn and the British Council (EdMaps, 2014). We are optimistic about the future of foreign language learning MOOCs!

Bio Data

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