


Improving Online Learning Experience through Enhanced Interactivity:

Supporting Students from China to Participate Effectively in MOOCs

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Abstract

A Massive Open Online Course (MOOC) is a course of study made available over the Internet without charge to a very large number of people. MOOCs offer open access to course materials and provide an interactive learning environment. While they attract learners from around the globe, MOOCs are not always designed to accommodate their diverse backgrounds and needs. This project examined the limitations in current MOOCs from the perspective of problems faced by Chinese MOOC users. Based on an environmental scan of MOOCs, analysis of published reports about major MOOCs, and lessons drawn from personal experience as a Chinese student and language tutor in North America, design guidelines for MOOC structure and MOOC interaction interfaces were created. These guidelines will be useful to online education providers and system developers when designing or developing online courses. An orientation guide for new Chinese MOOC users was also prepared in the form of a booklet.

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1 Introduction

1.1 Design Context

Online education, with its variety of formats and content, provides a new avenue of learning to people who want to expand their knowledge. One popular form of online education is the Massive Open Online Course (MOOC), made available over the Internet without charge to a very large number of people. MOOCs offer open access to course materials and provide an interactive learning environment. This form of education breaks through the limitations of traditional educational systems. With its massive scale and open access, it provides an alternative, and more flexible, experience to learners. At the same time, online courses also reduce administrative costs for educational institutions such as admission and physical infrastructure expenses. Furthermore, the Internet resolves time and space restrictions, thus attracting global users to these online spaces and creating potential opportunities for unlimited educational networking.

In the above context, there is an increasing need to consider the diversity of learners in these global education systems and to include them all by suitably designing the online courses and associated systems. To illustrate, MOOCs organized and run by North American entities might not be familiar with certain unique systemic and cultural needs of students who participate from China, where the education system is different from that in the West. As a result, Chinese students might be unable to use these MOOCs to their full potential, although technically these MOOCs are available to them. This report

presents the results of a study aimed at identifying design requirements that would make MOOCs more usable to students from China.

1.2 The Global Reach of MOOCs

The concept of MOOCs evolved in the context of a course experiment conducted by Canadian educational researchers Stephen Downes and George Siemens (2008), who opened a for-credit course titled Connectivism and Connective Knowledge at the University of Manitoba, Canada to open registration. The gist of the experiment consisted in encouraging learners to take the course content not as the end, but as the beginning of an autonomous and active journey defined by the connections the learner creates between resources and with co-learners (McAuley et al., 2010).

As early as in 2002, MIT's Open Course Ware (OCW) movement had introduced the values of openness and sharing, from which the concept of open educational resources was developed. MIT has since been offering an increasing number of courses online for free access. Following this, universities and educational institutions have been sharing their high-grade resources online, creating Open Educational Resources (OER). With the emergence and establishment of online education companies on the Internet, OER expanded in quality and quantity. From Udacity and Coursera to edX and Udemy, these companies promote free and high quality course materials as their highlights. They also provide online support, including course material, assignments, evaluation and interaction between mentor and learners as well as among learners. They even award course certificates to learners who complete a course. This burgeoning Massive Open Online

Course service received a wide welcome from learners and came to be known as MOOC in short. The year 2012 was marked as The Year of the MOOC (Pappano, 2012).

MOOCs build on the ‘open knowledge sharing’ philosophy of the OER, by not only sharing high-quality educational resources globally but also providing additional learning support. This is a radical breakthrough in learning methods and approach. MOOCs are aimed at interactive participation by a massive number of learners in open source online courses. Unlike other online courses, apart from providing educational resources, they also create online communities that engage in interactive participation.

While online courses are still an emerging phenomenon for learners, and even course designers and developers, it is important to examine the merits and drawbacks of current MOOCs in catering to the learning needs and user preferences of a diverse set of users in a global context. This task is rather large in scope. My project contributes to it in a small way by considering how MOOCs are created and used in China and what specific user needs and preferences exist for Chinese MOOC users in the international context.

1.3 MOOCs in China

As in other countries, several formats of online learning were developed in China before MOOCs were introduced. Many universities were influenced by the OER philosophy and uploaded their courses online for students to access for free. The Open University of China’s Aopeng Distance Education Xuexi Center is China’s largest online education platform with over 2 million learners (Maurer, 2013).

MOOC was first introduced in China in 2013, when two major MOOC platforms, Coursera and edX, partnered with Chinese universities to offer their courses online. When their courses were formally released through partner Chinese universities, more Chinese universities began focusing on MOOCs. MOOCs became a popular topic in China's education landscape. Many conferences and discussions were held and many local MOOC platforms were established, such as Coursera Zone, XuetaangX, Kaikeba and TopU.com (Embassy of Switzerland in China, 2014).

There were 6,000 Chinese students in edX in March 2013 (Ezekiel, E., 20 November, 2013). On Coursera, which is the biggest MOOC platform, more than 4% of users are Chinese and 45 courses are available in Chinese (Table 1). Over 100 courses of MIT's OpenCourseWare (OCW) have been translated and adapted into Simplified Chinese by China Open Resources for Education (CORE), one of MIT OCW's translation affiliates (MIT OpenCourseWare, 2006).

Table 1 Chinese Participation in Coursera and edX

Platform	Coursera	edX
Chinese Students	> 4% (as of December 2012)	6000 (as of March 2013)
Courses in Chinese	45	
Chinese Members (& Number of Course Offering)	<ul style="list-style-type: none"> · Fudan University (1) · The Hong Kong University of Science and Technology (5) · The Chinese University of Hong Kong (5) · Shanghai Jiao Tong University (6) · Peking University (10) 	<ul style="list-style-type: none"> · The University of Hong Kong (0) · The Hong Kong University of Science and Technology (0) · Peking University (5) · Tsinghua University (7)
Chinese University Course Offerings	Law, Chemistry, Programming, Bioinformatics, Chinese Culture, History etc.	Electronic Circuits, Chinese Culture, Financial Analysis etc.

Coursera also tried to develop new forms of local MOOC communities in China. In October 2013, Coursera collaborated with the Chinese Internet provider NetEase to launch an inland service called Coursera Zone, a learning and communication platform in Chinese to help more Chinese students come into Coursera's learning mode and quality education resources. Coursera Zone offers course details and forums from Coursera. They also translate the courses through professional translators. The major advantage of Coursera Zone in contrast to Coursera is that the language of the platform is in Chinese whereby users could understand the details of courses and instructors and decide their course selection in Chinese. They can also communicate with each other to share learning experience, questioning and answering in Chinese environment. Furthermore, with this official cooperation mode, Coursera Zone is increasing loading speed of videos and other course content in China through its Content Delivery Network (CDN). This is improving Chinese students' learning experience even though Coursera, as a foreign site, loads more slowly. At the same time, Coursera Zone employs local teaching assistants to communicate with students and translate/repost hot discussions from Coursera.

Although the MOOC wave is still in its early phase in China, its openness (everyone can access regardless of location, occupation or age) and scale (there is no limitation in terms of numbers) will influence more Chinese students to make use of this new learning format. Chinese MOOCs are able to offer services that better suit Chinese needs at a technical, cultural and linguistic level. But international MOOCs have the advantage of providing resources from top international universities that attract Chinese students who have an

international vision. These MOOCs, however, are unable to cater well to the needs of students from China.

1.4 Needs of Chinese MOOC Users

In the case of Chinese students, the technical difficulties in accessing foreign MOOCs and the language barriers lead to a comparatively low participation rate. A study shows that English MOOC courses recruited only 1.3% users from China. What is worse, a typical MOOC requires students to read hundreds of academic papers, which is an “unrealistic” task for those whose mother language is not English. This situation directly leads to lower completion rate by Chinese users. Whereas the global average MOOC completion rate is about 10%, it is only 5% in China.

From Coursera’s guide to course developers, they suggest that instructors and teaching assistants should not answer students’ question. They hold the opinion that looking for answers from instructor or course staff would encourage students’ dependency. They want to train students to have a sense of solving questions by collaboration amongst themselves. From Coursera’s practice, another student would answer questions within half an hour. However, it is difficult to apply this strategy to a Chinese-speaking user circle. In Coursera's Chinese courses, students are still accustomed to seeking help from their instructors and TAs. Course administrators are tired of assisting student discussions as they were spending more than 30 hours per week to support their MOOC (Yeh, 2013).

The traditional Chinese learning environment causes this situation. Pedagogical culture in China is teacher-dominated and centrally organized. To avoid uncertainty, Chinese students and instructors were motivated to form an online community, in which the collectivist-femininity attribute of Chinese culture is said to be reflected (Ku & Lohr, 2003). Another tendency in Chinese teacher-student interaction is that students are more inclined to emphasize relationships than work tasks. Moreover, students from China are conditioned to view their peers as competitors. They are less willing to help with other learners' problems. Education is very competitive. The social structures and communities within MOOCs are very foreign to them.

Another barrier for Chinese students who adopt MOOCs is that there is a gap in the learning structure between MOOCs and the Chinese school system. For MOOCs to be successful, this requires a habitual and societal shift in how knowledge is pursued.

Learning in the Chinese school system is often a passive pursuit with all energy spent in learning to pass exams and get into college. And even in college, whereas obtaining knowledge for the sake of knowledge is encouraged in Western universities, Chinese students have long lost the motivation for learning; they regard gaining education as a way to gain social status (Dembs, 2013).

1.5 Rationale for the Design Exercise

Literature reveals a substantial amount of research already done on the technical infrastructure, teaching philosophy and course format of MOOCs. Considering the vast,

global reach of MOOCs, however, it is surprising how little has been done on making the MOOC's structure and interface design accessible to, and usable by, users with diverse requirements based on physical and sensory impairments, cultural and language differences, etc.

My personal experience as a Chinese student in North America gives me a perspective of the mismatch between the needs of Chinese students and the offerings of MOOCs, especially those based in North America. In China, we are used to learning in the traditional method and environment. The past learning experience for most Chinese users is face-to-face teaching and learning in a cohort. Yet, little research has been conducted on including students with cultural and language differences into international online learning communities, especially into hybrid online / offline community structures. The focus of recent research has been on the network-based learning platform (Connectivism MOOC), which is for specific learning sectors and content, and little research is available on improving the learning experience of the general learning community or for assisting the entire teaching process.

The education system and strategies are quite different in China compared to western perspectives. Chinese MOOC developers lack a basic understanding of this distinction. They are generally copying the mainstream international MOOC platforms. Chinese students' learning culture and relationship with the teacher are unique. This aspect does not appear to be taken into account in the design of the structure or interaction design of

international MOOCs. It is also necessary to provide guidance to new MOOC users to help them get oriented and sustain their learning interest.

1.6 Design Goals and Approach

The questions that drove this design challenge are:

- What connectivism principles affect online curriculum design?
- What are the unique needs of online courses, especially for Chinese students, associated with structure and user interaction?
- What are the unique needs of students' learning process and offline activities supervision?
- What experience and perspectives affect Chinese students when they participate in MOOCs?

The design approach adopted included (i) a detailed environmental scan of MOOCs based on published reports (Chapter 2), (ii) content analysis of relevant information gathered from testing seven most popular MOOC websites to study their online course structure and the interaction experience offered (Chapter 3); and (iii) lessons learnt from personal experience of teaching English to Chinese students remotely (Chapter 4).

Based on criteria derived from the above exercise, a set of design guidelines for MOOC structure and interaction interfaces was developed, primarily from the perspective of Chinese learners (Chapter 5). An orientation guide for Chinese students who are new to learning through MOOCs was also prepared (Appendix B). It is hoped that the design guidelines emerging from this project will influence the future design and development of MOOCs.

2 An overview of MOOCs

This chapter presents a review of research done on remote education by scholars and organizations. As MOOC projects are mostly in their early stages, the references are limited to online resources and research reports. There is paucity of information directly relating to the MOOC user experience.

2.1 Structure, Community and Peer review

Many models of practice have emerged in the MOOC context. Different ideologies have resulted in MOOCs using a variety of curriculum design approaches. Scholars are also classifying MOOCs using different standards. Pedagogically, MOOCs have been classified into Instructivist, Cognitivist, Social Constructivist and Connectivistic using a theoretical basis. Lisa M. Lane (2012) claims that every MOOC includes Networks, Tasks and Content. According to these different emphases, MOOCs are classified as Network-based-MOOC, Task-based-MOOC and Content-based-MOOC as described in Table 2 below.

Table 2 Types of MOOC

	Network-based MOOC	Task-based MOOC	Content-based MOOC
Type	Focused on networks, conversation	Emphasizing skills acquisition	Lecture
Theoretical Basis	Constructivist	Instructivist, Constructivist	Instructivist, Cognitivist
Curriculum Form	Learning by making aspect	Learning by making aspect	Based around content, and content access
Evaluation Method	Traditional assessment is difficult	Learning outcomes are difficult to measure	Machine evaluation
Typical Program	Alec Couros, George Siemens, Stephen Downes, Dave Cormier; Atutor course forum	Jim Groom's ds106; Lisa M Lane's POT Cert	edX; Coursera; Udacity

The most widely received theoretically based classifications are: cMOOC built around connectivity and xMOOC, or extended MOOC. In cMOOC's theory, knowledge is networked and connected. Learners discuss the same topic in a community network but learning in different pathways; each learner has their own personal tendency of learning. For example, Atutor system is the online learning platform used by the students of the Master of Design program in Inclusive Design in OCAD University. Every week, the course instructor posts weekly readings, resources and forum questions.

Students establish their own personal, customized and preferred tools and platforms to achieve their leaning goals (Fan, 2012). Forum questions are led by responses from students. Progress and results cannot be predicted in the course outline. In this model of MOOC, the instructor's resources are the starting point of research; student responses and

discussions are the core factor of study and interaction (Fan, 2012). cMOOC

(Connectivism MOOC) has the following features:

- interactive learning ways based on social networking;
- unstructured course contents;
- focus on building learning pathway;
- self-regulating and self-motivated learners.

If cMOOC was the progress and innovation of traditional education, the xMOOC based on behaviorism was an extension breakthrough, like Coursera and edX. Compared with cMOOC, xMOOC is accepted more easily by learners in its structured curriculum and systematized support. Moreover, the contents were connected with mainstream college courses. The xMOOC considered more aspects on user and system interaction with its multiple features, and I chose to focus my major research project (MRP) on the structure of the system and user's experience of page design.

Christoph Meinel is a German scientist and university professor of computer science. In Meinel's paper (2013) "openHPI: Evolution of a MOOC platform from LMS to SOA", Meinel presented a new platform for MOOC. He pointed out that MOOC learning content needs to be presented in its hyper textual structure and the learning environment must support learners to test innovative competence and by confronting them with graphical representations of their progress. He also emphasized that the platform should allow users to connect their learning experience to their social networks.

A conspicuous MOOC researcher and NYU Professor Clay Shirky, launched a MOOC dispute in his article “Your Massively Open Offline College is Broken.” Shirky considered that MOOCs should be seen as a reasonable response to the failure of the US education system.

Ron Legon is Executive Director of the US Program “Quality Matters” which is a faculty-centered peer review process that is designed to certify the quality of online and blended courses. In his article “MOOCs and the quality question”, he divided MOOCs into two generations. His argument was that the first wave of MOOCs (MOOC 1.0) was designed by faculty from elite institutions. They chose to model their MOOCs on successful lecture courses rather than hard-won knowledge. MOOC 1.0 courses take no responsibility for learning results or for the monitoring, engagement and evaluation. According to Ron, the second generation MOOC (MOOC 2.0) focuses on the typical learner, and will enhance services and evaluation, and more tangible guarantees of credit or recognition for those learners who successfully complete.

2.2 Interaction Interface

In Google’s web accessibility course, Google software engineer Charles Chen demonstrated how to use the screen reader project ChromeVox to make a webpage more accessible for people with visual impairment and increase the potential audience. They did a lot of work to ensure users aren’t excluded from being able to easily navigate the web.

Inge de Waard is the organizer of MobiMOOC. She initiated a MOOC guide that was opened up for all to add and edit, called MOOCGuide. The guide deals with some crucial factors that influence MOOC choices and resources, including a discussion on social media tools in the MOOC design process and how to make MOOC accessible via mobile devices. This Guide also includes many tools to tutor learners to set up their own MOOC.

Rebaque-Rivas, Gil-Rodríguez and Sabaté-Jardí contributed a case study on W3C's online symposium in their paper "A customizable and flexible e-learning environment for visually impaired students: a case study" (2013). They gave design recommendations focused on the customization and flexibility of the environments. They pointed out that an e-learning environment featuring widgets allows students to have access to the relevant content and updated information and to situate the widgets according to their preference. Also, customizing widgets allows students to build their online environment to suit their access needs.

In their research on "Chat's accessibility in mobile learning environments," Arbiol, Calvo and Iglesias evaluated serious accessibility barriers in selected chats application (Whatsapp, Line and Spotbros Chat) considering the established accessibility guidelines.

The evaluation practice had the following components:

- All interface elements should have a name, meaningful and, if possible, unique in the context (ISO 9241-171:200 8.1.1, 8.1.2 and 8.1.3, WCAG 1.1.1, 2.4.2 and 2.4.6, UDL 1.3)

- Interface Element size and color contrast (ISO 9241-171:200 10.4.1, 10.4.2 and 10.4.5; WCAG 1.4.3, 1.4.4, 1.4.8; UDL 1.1, 1.7 and 7.1)
- Texts' Configuration (ISO 9241-171:200 10.3.2 and 10.3.3; WCAG 1.4.4; UDL 7.1), Alerts (ISO 9241-171:200 8.4.9, 10.6.2 and 10.6.4; WCAG 3.3.1 and 1.4.2; UDL 1.3 and 1.2)
- Documentation and support (ISO 9241-171:200 11.1.1 to 11.1.5; WCAG 3.3.2; MWABP 3.3.1; UDL 2.1)

W3C (The World Wide Web Consortium) is an international community striving to lead the Web to its full potential. Their working draft (30 January, 2014) “Website Accessibility Conformance Evaluation Methodology (WCAG-EM) 1.0” provides guidance on evaluating websites’ conformance with the Web Content Accessibility Guidelines (WCAG) 2.0. This methodology describes an evaluation procedure in 5 steps. Using this methodology, I explored the accessibility conformance of current MOOC projects.

2.3 Learner Experience

Learners’ experience of MOOCs is reflected in the literature by way of analysis of reports and course metrics. The statistical approach presents firm insights about various types of learner preferences in MOOCs and captures trends of learner participation over course durations.

Stanford’s Lytics Lab’s report “Deconstructing Disengagement: Analyzing Learner Subpopulations in Massive Open Courses” (Kizilcec, Piech & Schneider, 2013) approaches the problem of large population of learners dropping out by investigating and categorizing learners through courseware analytics. The report categorizes learners into four prototypical learner trajectories—auditing, completing, disengaging and sampling—and notes across the three courses analyzed as shown in Figure 1.

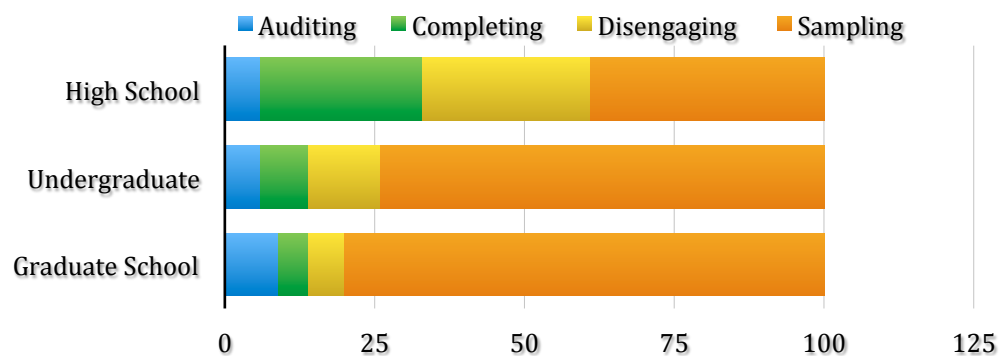


Figure 1 MOOC learner types and proportions

This paper points that analysis of course metrics and looking into learner psychology can be used to improve course design and enhance completion rates. Some patterns can be chosen as a lens to more closely analyze learners’ behavior and background. These could be used to research and design the direction for future courses.

Phil Hill has developed four patterns of learners on the same lines as Lytics Lab in the blog *e-literate*. His chart “Patterns of student participation data in Coursera MOOCs” is

widely quoted. The charts show a characteristic distribution of patterns of learners' durations in Coursera-style MOOCs (i.e. xMOOCs). Hill also provided a line chart to demonstrate the trend of numbers of video views from a Coursera course on Bioelectricity and EDC.

Stephen Downes, the Canadian commentator and expert in online learning, who is also a MOOC practitioner and designer, argues that more subtle classifications of learners are required. In his notes from the presentation "Designing and Implementing MOOCs that Maximize Student Learning" (2013), he points out that half the people in a MOOC may not have a knowledge of English as a first language. He also states that because the majority of active users are taking the course for fun or a challenge, rather than for a credential, they were not motivated to complete the course and earn a certificate.

Edinburgh University ran the first MOOCs in UK on Coursera in early 2012, with 300,000 attending its six MOOCs. The University published a report (2013) based on a pre-and-post course evaluation. Survey responses were received from 45,182 learners at the start of the course and from 15,351 for the end-of-course evaluation. The survey showed a very high percentage of window-shopping learners in all courses and a dramatic decline from enrolment to Week 1; the main aspirations of learners were curiosity about MOOCs and online learning, and a desire to learn new subject matter.

The Embassy of Switzerland in China published a situation analysis: "Massive Open Online Courses (MOOCs) in China" in February 2014. In this article, they presented a situation that MOOC students in China are still, to a large degree, coming from a higher-

educated and richer class. According to the study, 80% of MOOC students in China come from the richest 6% of the population. They also pointed out many challenges that MOOC is facing in China, including student cheating, and copyright issues and the possibility of fake MOOC certificates. What was worse, many Chinese were concerned that “foreign ideas” might be imported via MOOCs and that it will affect the Chinese ideology and socialism (Forestier, K., 2013).

2.4 Design Requirements Identified from Reports

The following high-level requirements could be identified from the reports studied above:

- Networked community of learners
- Accessibility of the interaction interface to users with disabilities such as visual impairments
- Customizability through widgets.
- Assistance to non-English speaking learners in understanding course material
- Guiding material to initiate new learners into MOOCs

Thus, the above research studies that have already been done in the field of MOOC and online community design provide my major research project with a strong base from which to build up. Studying the work others have done helped me in finding my own strategy for building an e-learning system, drawing upon the existing useful features and structures to create my own framework. The design exercise is influenced by the specific barriers to Chinese students to help in improving their online interactions. The resulting

design would benefit not only online learners from China but also learners from other places around the globe in similar situations.

3 Analysis of Seven MOOCs

Seven typical MOOC projects (Udacity, Coursera, edX, Udemy, FutureLearn, Canvas Network and Open2Study) were selected and studied based on their size, popularity and relevance to China. Content analysis of the information gathered resulted in six dimensions related to twelve keywords as shown in Table 5 on the next page. These keywords were then applied back to the seven MOOCs as shown in Table 6, to arrive at a set of guidelines for the structure of inclusive MOOCs, described in the next chapter. Content analysis also inspired identification of some features specifically for Chinese users in the areas of operation mechanism, curriculum design, student participation and learning assessment.

Table 3 Content Analysis Details

Code	Dimension	Keyword	Description
A	Organization Structure	Organizer	developed from formal educational institution or not
B		Co-organizer	if have other collaborate institutions other than higher-education or not
C		Profit model	clear profit model or not
D	Targeting Users	Open sources	free open to all users or not
E		Technical support	have unique feature and creation, e.g. technique tools or not
F	Curriculum Form	Course-orientation	partial to college courses or not
G		Curriculum design	if courses are specific for online learning
H		Curriculum structure	if courses are inner consistency
I	Curriculum Resources	Curriculum videos	diverse presenting model or unitary
J	Pedagogics		have specific pedagogics for online learning or not
K	Quality certification	Certificate	if clearly evaluate the learner's outline and offer level certificate or not
L		Credit transfer	if could transfer online credit to higher-education institution

Table 3 shows the seven MOOCs arranged in chronological order of the year founded, as well as the presence or absence of features represented by the keywords. In general, every MOOC tried to emphasize the features that distinguished them from the MOOC's foundational model. They regarded curriculum, internal consistency, course video design,

and offering communication tools between learners and teachers online as important. On the basis of high quality content, they tried to lead massive user participation. However, controlling of learning outcomes and certification still require improvement. Issues around these problems need to be solved to remedy the current malady of high dropout rates.

Table 4 Content Analysis List

MOOC	A	B	C	D	E	F	G	H	I	J	K	L
Udacity		X	X	X	X	X		X	X	X	X	X
Coursera			X	X	X	X	X	X	X	X	X	X
edX	X			X	X	X	X	X	X	X	X	
Udemy	X		X		X		X	X	X			X
Futurelearn	X	X		X	X	X	X	X				
Canvas Network	X	X		X			X	X	X			
Open2Study	X			X	X			X	X		X	
Number of X	5	3	3	6	6	4	5	7	6	3	4	3

From the above content analysis, as summarized in Table 4, the current MOOC projects are seen to have the following development characteristics:

3.1 Operation Mechanism: University-based Diversified Collaboration

MOOCs offer a platform for universities and teachers to trade their online courses. There are three types of operating mechanisms: (i) Investment-oriented venture company, like

Udacity and Coursera (Coursera received \$1,600 million investment from Kleiner Perkins Caufield Byers and New Enterprise Associates); (ii) Open source MOOC projects conducted by universities using their open online courses, as a form of distance education; and (iii) Business transformation of companies in the education business, from learning management system (LMS) to MOOC company, like Canvas Network (Table 5).

Table 5 Operation Mechanism

Operation type	Operation features	Operation features	Typical project
Investment-oriented Company	<ol style="list-style-type: none"> 1. Online educational venture company with VC funding 2. Offering platform to support learning 3. Courses prepared by cooperative university professors 	For-profit model	Udacity, Coursera, UdeMy
University Union	<ol style="list-style-type: none"> 1. Formed by universities 2. Offering learning management platform 3. Courses prepared by alliance universities 4. Depending on existing online educational resources and students 	Non-profit model	edX, Futurelearn, Open2Study
Business Transformation	<ol style="list-style-type: none"> 1. Transformed from LMS to learning supporting platform 2. Course prepared by independent teachers 	No clear profit model	Canvas Network

3.2 Platform Orientation: User-based Service

In MOOC projects, all courses need to meet its platform criteria before being launched to users. This requires universities and teachers to design their course according to online learners' needs and experience. Some courses surveyed learners before the course started, and analyzed course metrics throughout the course time, in order to satisfy learners' demands. The emerging MOOCs are leading to democratization of learning experience, and learners' experience is becoming the core standard to evaluate teachers.

3.3 Curriculum Structure: Structured Course Design

Open class (www.openclass.com) highlights sharing resources and building the resources together. Comparing with Open Class, MOOC has a structured course design and learning plans to meet users preferences. MOOC emphasizes learning interaction through its well-designed teaching and learning process. It is a network to connect knowledge providers and knowledge receivers. Coursera, EdX and Open2study have structured their courses by clear course calendar and syllabus. They also arrange lecture videos, exercises and programming assignments to enhance user experience.

3.4 Curriculum Resources: Video-based Delivering Method

All the MOOCs are using video as their core method to deliver knowledge. The videos are commonly no longer than 20 minutes. Developers have tried to connect video with quizzes. For example, in Coursera a quiz section is followed with a video as a segue into the next section.

3.5 Quality Certification: Early Stage Exploration

MOOCs have made a huge leap forward in outcome evaluation by employing machine assessment and peer review to provide learners with timely feedback. Some MOOC organizations also award digital certification to learners who qualify by passing the final exams. Moreover, they are also trying to collaborate with universities in order to transfer online credits to college credits. At the moment, five Coursera courses have been

evaluated and recommended by American Council on Education's College Credit Recommendation Service (ACE CREDIT).

3.6 Inspiration for Chinese MOOCs

MOOCs are improving educational resource sharing and creating global networks of learners and teachers. By comparing current MOOC development and college education characteristics in China, I derived inspiration for Chinese MOOC development from content analysis in the field operating mechanism; curriculum design; student participation and learning assessment.

3.6.1 Creating University Alliance

MOOCs originally began as high quality courses from elite universities. Futurelearn was launched with 12 British university partners and Open2Study projects was founded by Open Universities in Australia. They all operated MOOCs in cross-school mechanisms. Although the Chinese educational administrative departments invested in and promoted open courses in China, the results were not remarkable. Moreover, the quality of education in Chinese universities differs by regions. For these reasons, creating university alliances and sharing high quality educational resources would improve online course quality and cross-school collaboration in China.

3.6.2 Redesigning Curriculum Structure

The evolution from open educational resources (OER) to MOOC was through sharing resources to provide courses and education. In MOOC curriculum design, all courses were developed to assist users in their learning pathway. Course registration, lectures, tests, assignments and exams were all developed to specifically suit online learning. The Chinese college courses being quite different from these MOOC requirements, Chinese MOOC developers should learn to design their online courses by following online user needs and requirements in learning, teaching and structure aspects. Also, the relationship between teacher and students should be redefined and redesigned, abandoning certain old hierarchical practices still prevailing in China (see 5.1.1).

3.6.3 Reinforce User Support

The open education world has three trends: learning tools and infrastructure usability (Tunnel), free and open education materials and resources usability (Page) and worldwide collaborative open access and sharing movement (participatory learning culture) (Bonk, C., 2009). With years of OER movement, the “tunnel” and “page” has already tended toward perfection. However, the biggest difference between OER and MOOC is the degree of student participation.

In alignment with the Web 2.0 practices, the online learning culture has also turned participatory. Keeping this in mind, developers should consider the use of multiform tools such as email, social media and online forums to enable learners to discuss and build

community. Students should not only be content consumers, but also content creators and developers. They should collaborate with each other and organize self-learning in a friendly atmosphere.

3.6.4 Transform Evaluation Concepts

In Chinese traditional education evaluation systems, educators use examinations to evaluate student's learning performance and a good grade becomes the goal for most Chinese students. MOOC developers need to change this system by not just assessing the level of subject matter knowledge, but also creating multiform criteria to evaluate learning outcomes. They also need to consider offering timely feedback during the entire learning process, in order for students to adjust learning methods and improve study outcomes.

3.7 Summary of Design Criteria Derived

The following points emerged from the above analyses with a bearing on the design:

- Structure course design and learning plans to meet users preferences
- Use video-based learning materials
- Prepare learning materials to specifically suit online learning
- Provide multiple tools such as email, social media and online forums to enable learners to discuss and build community
- Use multiform evaluation criteria and offer frequent, prompt feedback to learners
- Enable transfer of online credits to college credits

4 Lessons learned from Personal Experience

I taught English to two friends from September 2013 to December 2013 to help them prepare for their International English Language Testing System (IELTS) test, while I was in Canada and they were physically in China. I used this opportunity as a teacher to build a small online learning system myself. I take this teaching experience as a part of my research on online curriculum, system structure and community design. My two students were extremely limited English users, who could convey the general meaning of a familiar situation in English, although a breakdown in communication was highly likely, and would happen frequently. Both are students are college graduates, and began their study of English in the first year of junior high.

The IELTS consists of four sections: listening, speaking, reading and writing. I started my course with English grammar, because they had learnt grammar earlier but didn't use English for more than two years. I structured this section as in Table 6:

Table 6 Syllabus of Grammar Course

Lecture	3 hours per day via Skype and screen sharing as whiteboard
Course Materials	Grammar book, course notes sharing by Evernote
Assignment	Multiple-choice questions exercise, Recitation
Evaluation	Multiple-choice questions accuracy, Questioning
After Class Discussion	Student self-organized

The lecture part taught concepts of grammar combined with sentences contained in each grammar part. I wrote the emphasis and highlights on screen and shared with them on Evernote. I shared my screen and talked with them via Skype, I also could see their faces from their camera. There is no textbook for my class, but I told them the title of grammar points prior to the class. So the grammar book is their reference before and after class. They themselves evaluated the accuracy of their answers to multiple-choice questions. Also, there was a questioning session at the beginning of each class for me to evaluate their recitation performance. And their offline discussion was self-organized through many channels: phone, messages and face-to-face.

The following outlines the course design for four sections of the IELTS, and the courses were organized as in Table 7.

Table 7 Course Arrangement

	Listening	Speaking	Reading	Writing
Curriculum Form	Skype lecture	Thread questions	Past exam articles	Skype lecture
Assignments	Past exam listening materials	After class discussion	Exercise	Essay
Evaluation	Exercise accuracy	Mock exam as IELTS speaking	Exercise accuracy	Essay rating

I designed the four sections through two modes of delivery: listening and writing were delivered via Skype; the grammar part was delivered as a lecture; and speaking and reading were designed around connectivity. The course material was from Cambridge

IELTS official examination papers. For the listening part, I taught them listening skills and let them practice listening to materials from Cambridge IELTS. Assignments were also in the form of practicing skills I taught in class. For the writing part, I deconstructed writing methods, and the daily assignment was an IELTS essay. I checked and edited their essays myself and it took me more than 30 minutes for each essay. For the speaking part, I uploaded thread questions in a shared document on Google drive. Students could respond to questions directly on Google drive and all three of us could read the updated file online. I designed this part like a cMOOC model, where students set up their learning plan on their own. Also, the after class discussion played an important role, with face-to-face talking to make a realistic communication circumstance in English. The evaluation mode was a mock exam like IELTS. I talked with my friends and I evaluated their outcomes and gave them advice for improvement. For the reading part, I organized self-learning exercises that involved reciting words, and asked students to self-evaluate learning outcomes.

I faced several challenges during the online teaching practice. Firstly, the unstable Internet connection was an issue that always affected the online lecture, and this could cause a time lag in screen sharing and voice transmission. At times, I had to waive the class and this negatively impacted students' after-class schedule and teaching plan. Secondly, because of the distance and time lag, there were limitations in course time planning. In addition, I could not monitor students' offline learning progress, offline discussion and peer learning progress.

The above research and first hand experience provided me with a greater understanding of distance education and structural design for an online course. I derived the following insights for my major research project that formed a solid base to begin my design:

- The users should have a stable Internet connection; be able to engage in self-learning and self-evaluation; and provide peer evaluation and feedback.
- The system should provide for monitoring of students' offline learning progress, offline discussion and peer learning progress.

5 Design Contributions

Adopting the design approach outlined in the previous chapters led to the development of a representative set of guidelines for MOOC Structure and MOOC Interaction Interface Design, aimed at making future MOOC systems more inclusive. The purpose of the MOOC Structure guidelines is to improve user experience by creating a more inclusive and interactive learning community and the Interactive Interface Design guidelines are aimed at improving accessibility for students with visual impairments and those for whom English is a second language. An orientation guide for new Chinese MOOC users was also developed.

5.1 Design Guidelines for MOOC Structure

The guidelines encompass three areas: structure, community design and peer-review strategy.

5.1.1 MOOC Structure Design

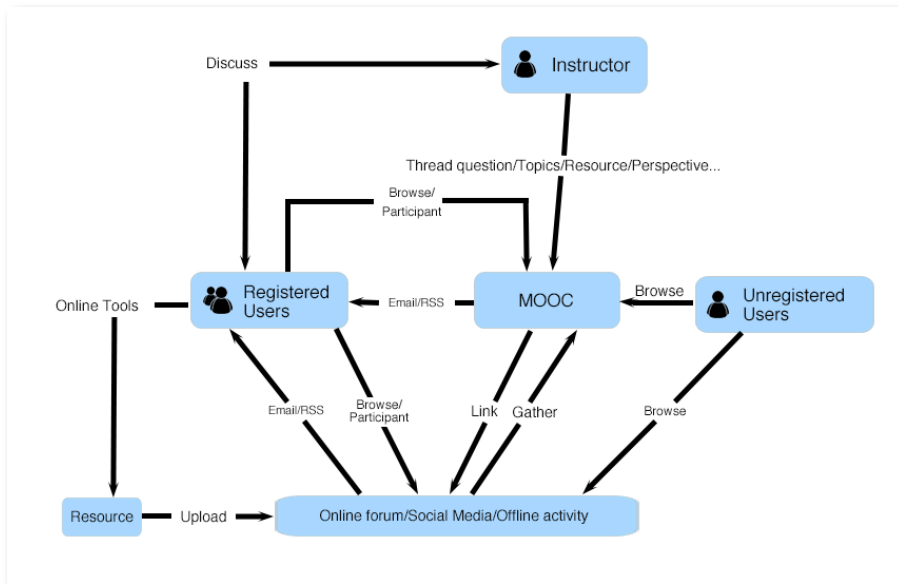


Figure 2 MOOC Structure

MOOC is the central platform in the suggested structure (see Figure 2). It is managed and maintained by the administrator. MOOC releases course materials such as lectures, syllabus, course schedule, exercise, assignments, surveys, activity notice, thread questions, etc. The instructor is in charge of organizing the entire learning practice. In this structure, the instructor contributes course resources; thread questions and his/her perspectives on the course. The instructor also coordinates users' discussion and learning progress. Learners use MOOC and other platforms and tools to participate in the course; browse resources; discuss course questions; and complete assignments.

The role of the instructor is more like a sponsor and a coordinator. They are in-charge of creating and updating the course; writing newsletters; reading, commenting and leading online forums, hosting online seminars and reviewing learning progress.

5.1.2 MOOC Community Design

The MOOC community (as illustrated in Figure 3) is a part of the structure. The user will get to interact with the instructor and other learners both in online and offline environments. The online environment includes discussion, social media and peer review. In the discussion section, users participate and communicate through forums and video chats with the instructor and other users. They could also add, as friends, other learners on MOOC and social media. This gives them a platform for contributing and sharing resources. The strategy for peer review is explained in Section 5.2.3.

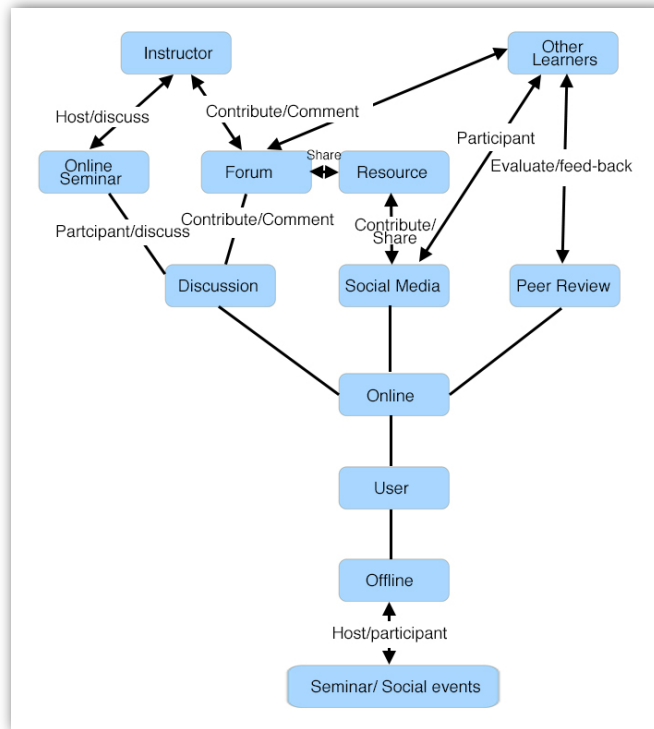


Figure 3 MOOC Community

The offline part is self-organized by users, they can host and participate in diverse forms of activities as a part of a MOOC community.

5.1.3 Peer Review Strategy

Peer assessment refers to the practice of classmates evaluating each other’s work. In the context of a Coursera course, this form of assessment (1) allows instructors to give assignments that go beyond automated or machine grading; (2) provides class members with personalized feedback, even in classes with thousands of learners; and (3) offers

learners the opportunity to learn by playing the role of both "teacher" and "student" (which, education research suggests, is highly effective).

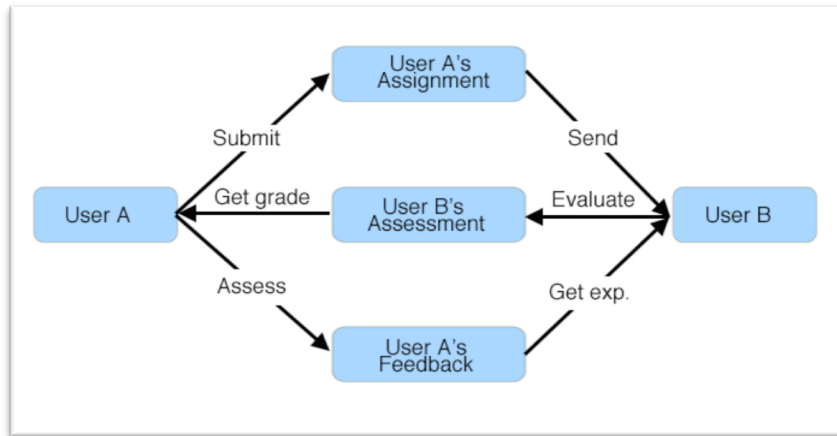


Figure 4 Peer review strategy

In my peer-review strategy (as illustrated in Figure 4), if User A agrees to enroll in a peer-review program, after his/her assignment was submitted to the system, that paper will randomly send to another user (say, user B) who is also enrolled. User B assesses and evaluates User A's paper and then writes an assessment report to User A. After User A receives the report, A could argue or comment on User B's assessment report and grade User B's evaluation results. User B will get experience points (popularly called expo points) and rating from User A. Likewise, User A receives another user's assignment and plays the same role as User B.

The peer-review experience points could upgrade the user's level, that means the user could get reviews from higher level users. Conversely, if the user does not evaluate

his/her peers' work or delays submission, he/she will receive a penalty that will reduce the experience points or course grade.

In addition, there are some policies:

- Assignments will be seen by several other users, as well as by course staff.
- All the assignments will remain anonymous among peers.
- Sarcasm, profanity, or personal attacks should not be included in a peer evaluation.
- The instructor maintains the right to moderate student review results.

5.2 Design Guidelines for MOOC Interface

With a view to improving accessibility of MOOCS, some guidelines are suggested below for (i) redesigning webpage interaction elements such as buttons; (ii) creating a wireframe design for lecture videos; and (iii) adding accessibility widgets. Appendix A provides illustrations of application of the guidelines to a prototype MOOC webpage.

5.2.1 Interaction elements

Proposed Guideline: (i) Provide buttons made of different colors and containing text; (ii)

Where applicable, use non-text figures for effective visual presentation.

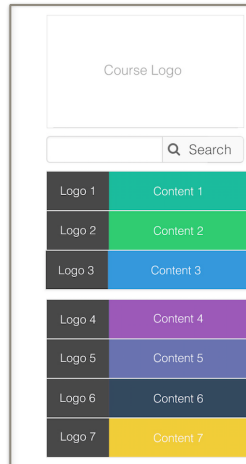


Figure 5 Button

Interaction elements on the user interface are crucial to effective and enjoyable user experience. It is essential, therefore, to ensure they are accessible to all. One of the common user interaction elements is the button

(i) Provide buttons made of different colors and containing text:

All interface elements, such as buttons, should have a name, meaningful and, if possible, unique in the context. Such textual information will especially help users who are blind in using the elements. Moreover, it is also desirable to provide different color schemes to allow enough contrast (Arbiol et al., 2013). In fact, playing with all these elements and their corresponding contrast can improve the appearance of the design and also help in making the design more accessible to users with reduced vision (The Shock Family+, 2013).

(ii) Where applicable, use non-text figures for effective visual presentation:

Visual elements, if applicable, represent context, provide meaning and help users using different languages to navigate the interface features. Alternative text provided for such visual elements will help users who have trouble viewing the interface in getting the context.

5.2.2 Course Lecture

Proposed Guidelines: (i) Provide alternatives for time-based media; (ii) Develop useful tools on the lecture page.

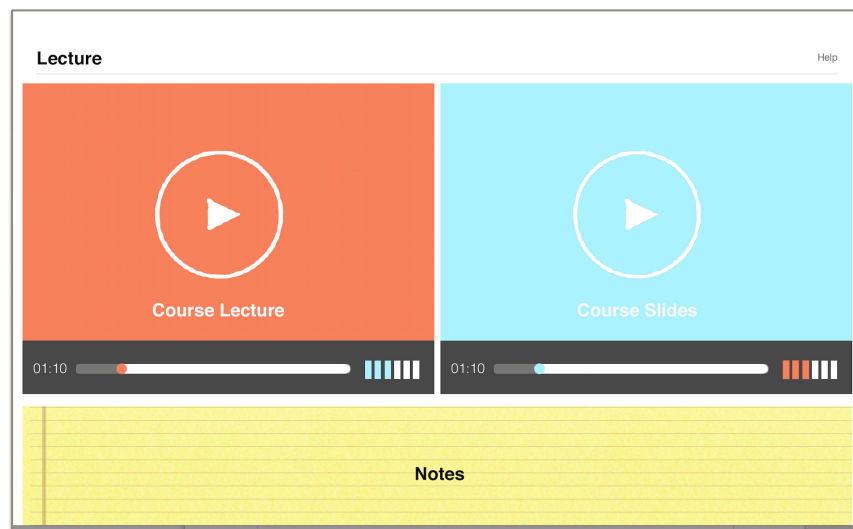


Figure 6 Lecture page wireframe

The guidelines proposed here are primarily suggested by WCAG in the context of users with disabilities. In addition, these will also be helpful to users from a different language/cultural background, such as Chinese users learning from international MOOCs.

(i) Provide alternatives for time-based media:

Alternatives for time-based media include captions for audio content and audio description for video content. WCAG 2.0 guideline 1.1.2 requires that captions must be provided for all prerecorded audio content in synchronized media. An exception could be when the media is a media alternative for text and is clearly labeled. Captions not only help users who cannot hear in accessing audio content, but also enable users not proficient in the language of the audio content to understand it better. Guideline 1.1.3 requires an alternative for time-based media or audio description of the prerecorded video content to be provided for synchronized media, except when the media is a media alternative for text and is clearly labeled. Audio description makes the visual and silent portions of videos intelligible to users who cannot see. Such descriptions also make culturally significant meanings explicit to users from a different cultural background.

(ii) Develop useful tools on the lecture page:

Dual and adjustable size videos (as shown in Figure 6) provide alternative scale for course lecture videos and real-time course slides. These would make learning easier for users not very familiar with the lecture content. Page tools such as notes and recorders improve the learning experience for all users by integrating busy desktop application windows. They could also improve learning outcome in reviewing course materials.

5.2.3 Accessibility Widgets

Proposed Guidelines: Provide diverse and customizable accessibility widgets to meet the diverse needs of users

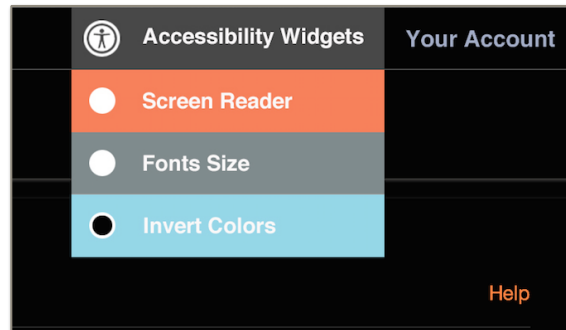


Figure 7 Accessibility widgets

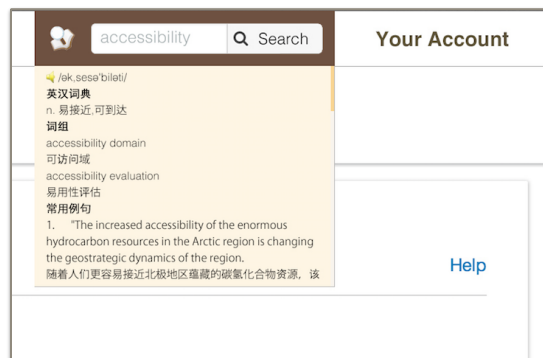


Figure 8 Dictionary widget

The possibility of repositioning the widgets in the environment allows learners to situate the widgets according to their preferences (e.g. placing the most relevant widgets at the top of the page), therefore avoiding the need to search for what they need (M. Ribera et al., 2008). An e-learning environment featuring widgets allows learners to have access to

the relevant content and updated information of their studies located on the same page, with no need to open new windows or tabs to access these contents. Customizing the colors of widgets allows learners with sufficient partial sight to identify them without having to read them (Rebaque-Rivas et al., 2013). Although still not large, some MOOC courses recruited more than 8% learners whose first language is not English (Edinburgh University, 2013). The majority of MOOCs are in English, but increasingly - we are seeing some of these being translated by the MOOCs' online student community themselves. It is also anticipated that multi-lingual MOOCs will be growing with the increased participation of leading international universities (MOOCs University). Language widgets like dictionaries, as illustrated in Figure 8, could provide more inclusive and convenient environments for international users.

5.3 Orientation Guide for New Chinese MOOC Users

The diverse and broad curricula offered by MOOCs provide an opportunity for Chinese students to boost their global competitiveness. However, most Chinese MOOC users face anxiety, unfamiliarity and other such issues when they first participate in international MOOCs. There are several reasons for this, including the past educational experiences of Chinese students; the differences between eastern and western cultural perspectives; and Internet connectivity problems due to the blocking of most foreign websites by Chinese authorities. There is thus a need to provide learning material that will bridge this gap and help Chinese students begin and sustain their learning through international MOOCs.

An orientation guide in the form of a booklet has been designed (see Appendix B) to meet the above need. The purpose of the booklet is to provide knowledge about MOOCs and demonstrate general guidelines for course preparation prior to participation in online learning. It is intended to help all new Chinese MOOC users as a good starting point for gaining an insight into the MOOC family. Following an introduction, the second section of the booklet provides guidance for proxy setting to help users access the Internet more efficiently, and recommends certain hardware that would facilitate their learning process. It provides reminders regarding what to bring and what not to bring while enrolling into MOOCs, and also tries to promote past good customs and perspectives and helps students abandon bad views. Sections 3 and 4 of the booklet provides a general account of the operating mechanism and peer review strategy of MOOCs.

6 Looking Back and Looking Forward

6.1 Contributions

The goal of this project was to explore interactive MOOC structure design and to make design suggestions for improving accessibility for users with diverse needs. Specifically, the needs of MOOC users from China were considered. It involved developing structures for MOOC platforms and communities and designing interaction interface guidelines that designers and developers can use in conjunction with their own research. An orientation booklet for the general guidance of new MOOC users from China was also prepared.

The suggested MOOC structure defined each MOOC participant interface as well as the overall platform, focusing on the roles and relationships between them. The MOOC community design used online tools and offline communication to create an interactive and inclusive environment for e-learning participants. By making users feel more included in the course, new users will be more likely to continue their learning progress. Additionally, this mechanism can be applied to other online communities. The peer review procedure included assignment evaluation strategies that could reduce the instructor's work and create the opportunity for future massive certificate courses. Participants also have greater responsibility in reviewing others' papers through the recommended dual response process and experience promotion.

Learning barriers can be reduced through the accessible design of the interaction interface, using visual design of buttons, colors, alternative scale lecture videos and accessibility

widgets. It is hoped that the design guidelines emanating from this research will allow new approaches when designing MOOC accessibility tools.

6.2 Future Research

The MOOC of today is developing rapidly and is all set to eventually evolve into an acceptable alternative method of delivering knowledge (Dennis, 2014). There are several directions and strategies that could be explored in future work: (1) Curriculum design could be aligned with college credit recommendation requirements to enable transfer of online learning accomplishments to the real world; (2) Analytics could be developed for evaluating course design, which would then generate data for future research; and (3) Localization of MOOCs for Chinese users could be explored further.

Future work on curriculum design could include examination of effective approaches, pedagogies and practices that lead to student success, applicability of college credit recommendations for MOOCs to college degree completion programs (ACE, 2012), assessing the applicability and determining whether or not MOOC curriculum design could successfully meet real college requirements, etc. Future work on MOOC analytics research would progress from more MOOC practice and Big Data analysis. This work requires massive feedback, experience and recorded information with the time.

MOOCs will change the overall Chinese education landscape. Localizing MOOC could include designing new forms of courses for Chinese students, or creating new tools while

taking other language courses, because very few MOOCs have been translated into Chinese or have captions.

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Appendix A– Application of Interaction Interface Guidelines

Exercises in applying the interaction interface guidelines:

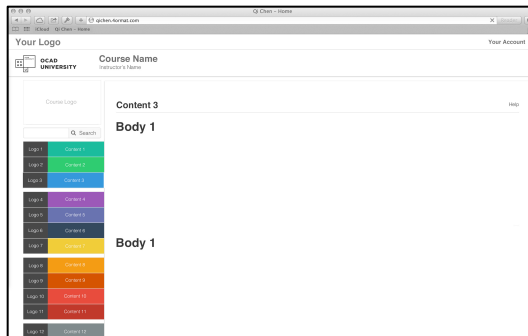


Figure 9 Buttons on course webpage

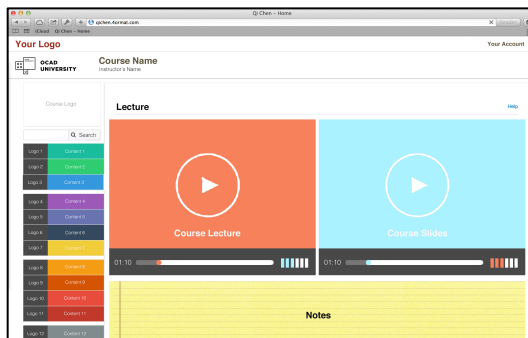


Figure 10 Course Lecture page interface

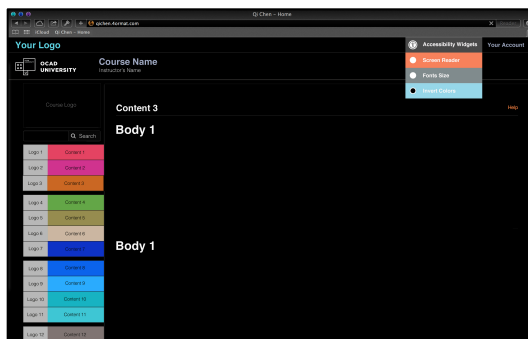


Figure 11 Accessibility widgets: applying inverted colors

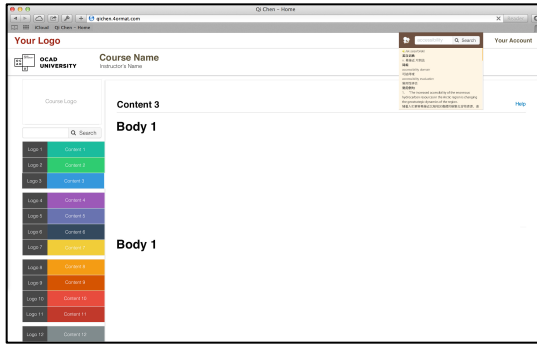


Figure 12 Accessibility widget: dictionary

Appendix B – Orientation Guide for new Chinese MOOC

Users



**WELCOME
TO THE
MOOC**

Online Learning Orientation Booklet for Chinese Students

By Qi Chen April, 2014

Contents

Welcome: Letter from the Editor	3
Course Preparation	4
Orientation	6
About Peer review	8

1

Welcome: Letter from the Editor

Dear new MOOC User,

Welcome to the MOOCs family! Since you are new to MOOCs, you might be feeling any number of emotions: excitement, curiosity, enthusiasm, and such. There is a great deal in this orientation booklet for you to take in. Please take you time and read through.

MOOC is a phenomenon that is reforming the international education landscape. It is an opportunity for you to receive free, flexible and high quality education from top international universities. With numerous western universities offering original courses on a global level using MOOCs, you can get international ideas and perspectives from MOOCs and practice your English in real contexts. MOOCs are a window for you to explore the world and advance your competitiveness.

In this orientation booklet, I would like to guide you into the MOOC. Hope you enjoy your study experience in the MOOCs world and get inspiration from it.

Sincerely,
Qi Chen

2

Course Preparation

Learning wares

Basically, the only learning hardware you need is a computer, whether with Windows, Macintosh or any other operating system. But, installing a web browser in your computer is necessary.

You also need Internet connection; a fast and stable Internet connection is recommended. This could minimize your time to get logged in and reduce unexpected problems.

For users living in mainland China, the Great Firewall (GFW) would block or filter foreign MOOC websites. To overcome this disruption, you might need a Proxy service. I recommend a Proxy from NetEase[1]:

How to install a Proxy service:

1. Download and install Chrome.
2. Open menu and click “Settings” on Chrome.
3. Click “Extensions” on the left of new page, then scroll down and click “Get more extensions”.
4. Enter Chrome web store, search “Proxy SwitchySharp” and install.
5. After “Proxy SwitchySharp” is installed, an earth icon will appear on the top right corner of the page.
6. Download the configuration script file (.pac) from <http://rrurl.cn/iMkOeC>.
7. Click “SwitchySharp” icon, select “options”.
8. Enter “SwitchySharp” options page, and choose “Proxy Profiles”.
9. Click “New Profile”, input profile name (e.g. MOOC), choose “Automatic Configuration” and click “Import PAC File”. Upload the configure script file you have downloaded.
10. Click “Save”, and configuration is completed.

How to use the Proxy service:

1. Open Chrome.
2. Click “SwitchySharp” icon; click the profile you have been created.
3. When the “SwitchySharp” icon turns to blue, you are free to browse the MOOC website.

1. <http://c.open.163.com/talk/talkDetail.htm?referered=https%3A%2F%2Fwww.google.ca%2F&pid=35003#/courseraTalk/talkDetail?pid=35003>

I also recommend some other hardware that could improve your learning performance:

Tablet: From my personal experience, reading text content on a tablet is easier and more efficient. You could also save your course materials and take notes on you tablet. The course contents would be portable for you to review and update regardless of the time, location and Internet connection. It would be easier to access online materials as well, because a tablet could boot faster than most computers.

Printer: Making a printed copy of key, useful content for your future review and reference. Hard copies are the best way to store materials if keep them organized in good order and form.

What to Bring

You should definitely make sure to bring the following items with you when you take part in a MOOC:

- Enthusiasm
- Hard-working spirit
- Exploration spirit
- Open mind and international vision
- Punctuality
- Self confidence

What not to Bring

The items listed below should definitely be dropped when you are in a MOOC:

- Regarding your peers as competitors
- Not wanting to collaborate and communicate with others
- Fear to doubt teacher's authority
- Lack of skepticism
- Fear of failure
- Cheating and copying

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Orientation

Word Description (glossary)

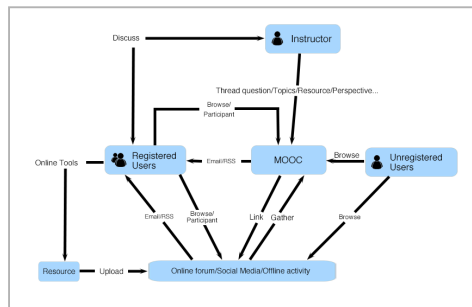
Syllabus: an outline of the subjects in a course of study or teaching.

Unlike the literal meaning as translated to Chinese, in MOOCs and North American education, the syllabus is a general description of the course outline and requirements for students to refer. It normally includes course schedule, forms, assignment requirements and evaluation criteria.

Forum: a meeting place or medium where ideas and views on a particular issue can be exchanged. Like online forums you have participated on social media, forums on MOOCs are a platform for you to discuss ideas and course content. Please always stay connected with forums; it is a good way to get in touch with instructor and peers.

Seminar: a conference or other meeting for discussion or training. As there is no similar learning platform like seminar in China, you might be unfamiliar with this learning method. The seminar is an occasion where you can discuss questions and ideas with instructor and peers, Most MOOC platforms hold their seminars online via video chat during scheduled times. I would recommend you checking the course schedule from the syllabus and taking part in them. Remember, even though it is held by the instructor, it is lead by students' contribution. So, please don't hesitate to give your ideas. A wrong answers is better than no answer.

MOOC Navigation



MOOC structure

The central in platform of the MOOC is managed and maintained by the administrator. MOOC releases course materials such as lectures, syllabus, course schedule, exercise, assignments, surveys, activity notice, thread questions, etc. As in the figure shown above, the instructor is in charge of organizing the whole learning practice. In this structure, the instructor contributes course resources, thread questions and his/her perspective on the course. The instructor also coordinates user discussion and learning progress. Learners use MOOC and other platforms and tools to participate in the course, browse resources, discuss course questions and finish assignments.

The role of the instructor is more like a sponsor and coordinator. They are in-charge of creating and updating the course, writing newsletters, reading, commenting and leading online forum posts, hosting online seminar and reviewing learning progress.

Some MOOCs offer a certificate if you successfully complete a course. The certificate is an informal proof of your educational

achievement, You can use your MOOC certificate to advance in your career or gain valuable credentials. You can list your certificate on your résumé/CV and include it on social media/career profiles. Moreover, some MOOC courses have been accredited by education administrations or councils; you can earn credits from these courses and transfer to your academic program in a university. However, most certificate and credit validation are a paid service.

Ways to pay

You may be familiar with paying your bills online through an escrow-based payment platform (e.g. Alipay). However, almost all the MOOCs only take credit card for their additional service charges. You need a credit card with international payment function when you want purchase MOOC paid service.

Visa and MasterCard can be used for all MOOCs as they are most widely accepted. To make sure if your card is valid, just check if your card has a Visa or MasterCard logo. Then, all you need to do is to input the card number, expiration date and Card security code (CVN) on the online payment page. In most cases, you don't need input your PIN, so keeping your CVN secure is necessary.

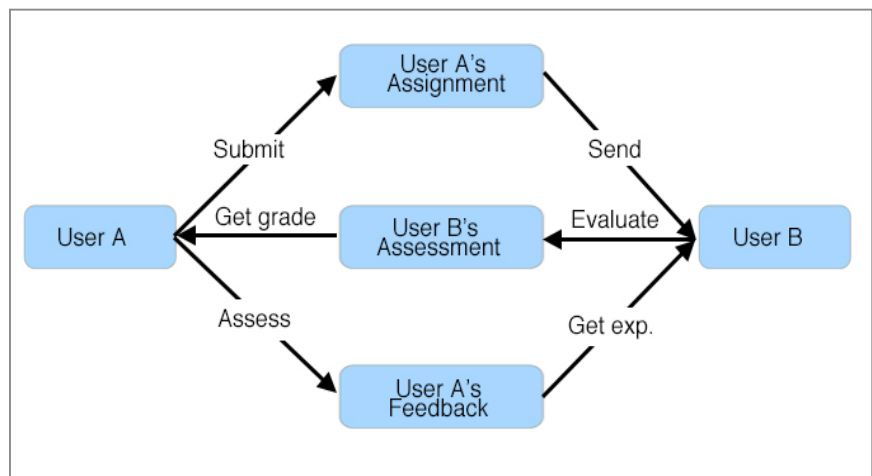
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About Peer Review

Peer review is a process whereby students assess their peers' assignments based on the course requirements. Employing peer review allows teachers to save their time and makes massive learning possible through MOOCs. It also reduces the time within which students receive their feedback. This form of assessment:

- (1) allows instructors to give assignments that go beyond automated or machine grading
- (2) provides class members with personalized feedback even in classes with thousands of students
- (3) offers students the opportunity to learn by playing the role of both "teacher" and "student" (which education research suggests is highly effective).

Strategy



Peer review strategy

As shown in the figure on page 8, in the peer-review strategy, if you agree to enroll into the peer-review program, after you submit your assignment to the system, your paper will be sent randomly to another learner who is also enrolled. Your peer will assess and evaluate your paper and then write an assessment report to you. After you receive the report, you could argue or comment on the assessment report and grade your evaluation results. Your peers will get Expo. points and rating from you. Likewise, you would also receive other learners' assignments to review.

Expo. points Program

You will receive Expo. points from your peers ranging from 1 to 10. When you get enough Expo. points, your level will be upgraded.

Level	0	1	2	3	...
Expo. Points	0-4	5-14	15-34	35-74	...

The requirement of points to upgrade to next level are in geometric progression. By upgrading your level, your submissions will have authority to be reviewed by peers in the same level as you are. As a result, you can get higher quality feedback from more expert / experienced learners.

If you submit your review report late or don't evaluate your peers, you will lose Expo. points as penalty.

Peer-review policies

- Assignments will be seen by several other users, as well as by course staff.
- All assignments will remain anonymous among peers.
- Sarcasm, profanity, or personal attacks are never to be included in a peer evaluation.
- Instructor maintains the right to moderate student review results.



This booklet was prepared by Qi Chen as part of the Major Research Project Report submitted to OCAD University in partial fulfillment of the requirements for the degree of Master of Design in Inclusive Design.